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A Clinical Lecture
ON
PYELOGRAPHY AND THE EARLY DIAGNOSIS OF DILATATION OF THE KIDNEY.

Delivered at the Medical Graduates' College and Policlinic on March 29th, 1911,

BY J. W. THOMSON WALKER, M.B. EDIN., F.R.C.S. ENG.,

ASSISTANT SURGEON TO ST. PETER'S HOSPITAL FOR STONE AND OTHER URINARY DISEASES, COVENT GARDEN; SENIOR SURGEON TO OUT-PATIENTS AT THE NORTH-WEST LONDON AND HAMPSTEAD GENERAL HOSPITAL.

(*With Illustrated Plate.*)

GENTLEMEN,—You are familiar with the condition of hydronephrosis and pyonephrosis in which one or both kidneys are reduced to a thin shell containing urine or purulent urine, and you are aware that plastic operations are performed for the relief of the obstruction in these cases and are successful in preserving what remains of the secreting tissue of the kidney. But it must have occurred to you that success in such an operation can only be success of a very qualified kind, and that the kidney cannot be made to return to its normal state. These kidneys are not functionally worthless, for both kidneys may be hydronephrotic and the patient continue for a time in good health, but their secreting power is reduced to a very low point and may at any time prove inadequate to perform the renal function. Such cases, looked at broadly, are surgical failures, failures in early diagnosis, and failures in timely operation. There was a time when dilatation was commencing.

Follow these cases back and it will be found that the dilated kidney was once a moveable kidney or an aching kidney without mobility, or there was a small calculus in the renal pelvis or ureter, or acute pyelonephritis. That was the time for operation. When does dilatation commence? How is this stage to be recognised? It is this point that I propose to discuss. The following case is an illustration of bilateral hydronephrosis and its treatment and will serve as an introduction to the subject:—

CASE OF BILATERAL HYDRONEPHROSIS.

CASE 1.—The patient, aged 33 years, came under my care at the Hampstead General Hospital in July, 1910, complaining of pain in the left side of the abdomen. He had suffered from pain in the left loin ever since he was four years old. The pain came on every other day and might disappear for a week. It was brought on by walking or even starting in his sleep. At the age of 20 he lost the pain in his side and had pain along the urethra. At the age of 26 he again had pain in his side and this has continued since. He had occasionally passed blood as a child and had a severe attack at the age of 26, which lasted nine days. He had been treated for dyspepsia before he came under my care and a radiogram showed the abdomen was opaque with bismuth shadows. After 4½ months' treatment the intestine was so far free from bismuth that a radiogram showed a large calculus in the pelvic segment of the left ureter. On cystoscopy the ureteric orifices were natural in appearance. On passing an opaque bougie up the left ureter there was a hitch about three inches from the orifice and then the bougie passed on. The radiogram (Fig. 1) shows the stone lying in the ureter with the opaque bougie passing alongside it. The nucleus of the stone can be seen at the lower end. I removed this stone at the Hampstead General Hospital in July, 1910, by an extraperitoneal route by an incision parallel to Poupart's ligament. The ureter was thick but not greatly dilated. The calculus lay below the brim of the pelvis. The ureter was incised over the stone, which was removed. Bougies passed readily along the ureter into the bladder. The wound in the ureter was closed with catgut stitches. Recovery was uneventful, except that he complained of some pain in the right kidney. In November, 1910, he suffered from continuous hæmaturia for some weeks, and this was found to come from the right ureter. An X ray examination showed several stones in the right kidney. The kidney could not be felt on palpation of the abdomen. In February, 1911, he was admitted to St. Peter's Hospital for operation. I wished before operation on the right kidney to ascertain the condition of the left kidney from the ureter of which I had removed a stone. I therefore passed a ureteric catheter up to the pelvis on this side, and injected 40 c.c. of collargol solution (10 per cent.). There was no pain. A radiogram was then taken by Dr. W. Ironside Bruce (Fig. 2). This shows a dense shadow on the left side (collargol), which has the shape and appearance of a greatly dilated kidney. The rounded bosses are filled with opaque collargol and separated by fine clear lines representing the fibrous septa. On the right side there are widely separated shadows of stones, one of which lies below the crest of the ilium, while the shadow thrown by the upper pole of the kidney lies behind the eleventh rib, evidence of a greatly dilated kidney.

On Feb. 15th, 1911, I exposed the right kidney by an oblique lumbar incision and found a thin hydronephrotic sac of large dimensions adherent to the diaphragm above and extending well into the iliac fossa. In parts the wall was one-eighth of an inch in thickness, and in other parts it had the thickness of brown paper. The ureter was normal in size. The calculi were removed, and as the opening from the pelvis into the ureter could not be found in the multilocular sac, the ureter was opened and a fine probe passed upwards to determine the point of obstruction. This lay at the junction of the ureter and pelvis, but was so buried in fat and fibrous tissue as to be inaccessible. I therefore brought the ureter up to the lower end of the kidney and incised it longitudinally. A transverse incision was then made into the most dependent part of the hydronephrotic sac and the edges of this stitched to those of the incision in the ureter, a short circuit being thus formed. The length of the new opening between the kidney and ureter was about an inch. Recovery from the operation was uneventful.

This case in its final stage is one of bilateral hydronephrosis in which an operation was performed on each side for the relief of obstruction. On the left side a calculus was removed from the pelvic segment of the ureter, and the lumen of the ureter was free a year later, but the kidney was still hydronephrotic, as shown by a radiogram taken after injection of collargol. On the right side the hydronephrosis was due to a stricture at the junction of the ureter with the renal pelvis, and was treated by forming a short circuit between the lower end of the dilated kidney and the ureter below the obstruction. What remains of the renal tissue in this case has been saved, but there is just sufficient to carry on the renal function, and at any time this may fail.

METHODS OF EARLY DIAGNOSIS.

Let us look now at the methods by which a diagnosis can be made in the early stage of dilatation when destruction of the kidney tissue may be prevented by timely operation.

1. It is not possible by symptoms alone to make a diagnosis of early dilatation of the kidney. The kidney in not at this time enlarged. It may not be palpable. Tenderness is usually absent. Aching pain in the region of the kidney may be present in any of these cases, but it may not be caused by expansion of the kidney. It may equally be due to pyelitis, to dragging on the renal pedicle, to the drag of adhesions on the colon, to appendicitis or to gall-stones. Attacks of acute pain, renal colic, or ureteral colic cannot be looked upon as symptomatic of dilatation. Polyuria may be present and if recognised is an important sign, but it is an elusive symptom, frequently transient and often overlooked. Even on going back over the symptoms of a hydronephrosis, it is difficult, usually impossible, to say "at that time dilatation commenced, during this period the kidney tissue was expanding."

2. To Kelly of Baltimore we owe a method of estimating the capacity of the renal pelvis. A catheter is passed along the ureter by means of the cystoscope or Kelly's tube, so that the eye of the catheter enters the renal pelvis. The urine is allowed to run off and warm boric solution or saline solution is slowly injected into the renal pelvis by means of a syringe. When the pelvis is full the tension begins to cause pain in the kidney. The quantity which has been injected is now noted and is taken as the capacity of the renal pelvis. The patient usually indicates the position of the pain very exactly over the anterior surface of the renal pelvis about an inch and a half below and internal to the tip

of the ninth rib. Rarely there is posterior renal pain at the angle of the twelfth rib and the erector spinæ mass of muscle. If the injection be stopped at once the pain passes off quickly as the fluid drops away from the ureteric catheter. If the fluid is too cold, or if it is injected too quickly, spasm of the renal pelvis is set up and pain occurs before the pelvis is full. It is hardly necessary to insist that the fluid, catheter, and syringe must be rendered aseptic, and the greatest care must be taken in carrying out rigid asepsis during the operation. I use an all-glass syringe of 20 c.c. capacity, such as is employed in the injection of serum. The needle fits the ureteral catheter. A capacity of from 30 to 40 c.c. represents a slight degree of hydronephrosis. According to Braasch,[1] if 150 c.c. can be injected but little secreting tissue remains. I find that when there is a pronounced degree of hydronephrosis the pain when the kidney is fully distended is slight when compared with that caused by distending the normal pelvis, and it may be practically lost.

In practice there are certain difficulties and fallacies in this method. There are at present very divergent views as to the normal capacity of the renal pelvis. Luys[2] states the normal capacity as 2 to 3 c.c., while Bazy looks upon a pelvis which contains 30 to 35 c c. as normal. In my own cases checked by pyelography or operation the normal pelvis did not exceed 5 or 7 c.c. in capacity and was usually less. Until we can obtain more extensive observations on the capacity of the healthy pelvis the earlier stages of dilatation are likely to be overlooked by this method.

Another fallacy is the escape of some fluid along the ureter outside the catheter. By placing a catheter in the urethra and colouring the injection fluid with methylene blue any escape will be detected by the urine draining from the bladder being tinged with blue, but the amount cannot be measured, as it will be blended with the urine from the other kidney.

Still another fallacy appears to me to arise in making these observations. A kidney working under raised pressure, as these slightly hydronephrotic kidneys are, usually shows polyuria. With a fine-bore catheter, such as we use for the ureter, it is difficult to empty the pelvis completely when an abundant polyuria is in progress, and it is certain that while the boric lotion is being slowly injected the kidney is rapidly secreting urine. The distension of the pelvis is thus due, not only to the artificial injection, but also to the urine. I believe, therefore, that the capacity of the pelvis is frequently under-estimated by this method.

RADIOGRAPHY.

3. Radiography affords more definite information. An experienced radiographer can show the outline of the kidney even in stout subjects, and occasionally the shadow of a dilated ureter can be seen in an exceptionally good plate. Such accuracy can only be obtained by careful preparation of the patient. A vegetable laxative should be given two nights in succession before the examination. It is a mistake, however, to purge the patient. The important point is to have the bowel as empty as possible, and to this end the patient should eat very little on the day previous and nothing on the day of the examination. The judgment as to whether a shadow of the kidney is moderately increased in extent is by no means easy.

It is, as all are aware, an easy matter by changing the relative positions of the patient and tube to change the position of the shadow of the kidney or of a calculus. The shadow may within certain limits be projected outwards or downwards, and it may thus appear that the kidney is larger than normal or occupies an abnormal position. It is therefore necessary in any examination in which the size or position of the kidney is to be examined, and perhaps re-examined, that a fixed relative position of patient and tube should be used and that the source of light should be exactly in the middle line of the body, and, further, the radiographer should be able to reproduce with mathematical exactness this position on future examinations. It is under such conditions that Dr. Ironside Bruce has taken the radiograms which illustrate this lecture.

I distrust any statements in regard to minor displacements and enlargements of the kidney where no such fixed relative position has been used. The outer border of the kidney shadow and its lower pole are the limits which are most clearly seen.

Is it possible in a given case to say whether there is slight enlargement of the kidney shadow? There is, of course, no standard size of kidney which will fit all patients. The normal kidney varies in size in men and women, and to a less degree in different individuals. But apart from that, the varying size of the body makes it impossible to give the kidney the same relation to the plate in each. The relation of the kidney shadow to the twelfth rib gives no help, for this rib varies very greatly in length and in the angle it forms with the vertebræ, not only in different individuals but sometimes on each side in the same individual.

PROPORTIONAL RENAL MENSURATION.

4. On working through a large number of plates taken under the conditions defined above I have found that certain measurements may be given which will indicate the outer border of a kidney which is normal in size. These measurements have this advantage that they vary with the individual and are thus more likely to be accurate than a standard kidney size. They are as follows: If the narrowest transverse measurement of the shadow thrown by the twelfth dorsal vertebra be taken and this measurement doubled and projected transversely from the outer edge of the vertebral body at its middle a point will be found. If the same measurements be made in regard to the first and second lumbar vertebræ two other points will be obtained. By joining these three points the outer border of the normal kidney is roughly indicated. Any increase beyond this line may be regarded as abnormal. Further, I have found it possible to measure the size of the kidney and to express the measurement in inches or fractions of an inch in the following manner. My ureteric catheters are made with an alternate opaque and translucent band, each of which is half an inch. If one of these catheters be passed up the ureter to the kidney the opaque and translucent bands will show in the same plane as the kidney, and the relative shadow value of half an inch is obtained. By marking a piece of paper in half-inch values and laying it across the kidney shadow the actual size of the kidney is found (Fig. 3).

PYELOGRAPHY.

5. The last method, and that which gives the most striking and accurate information, is pyelography. Voelcker and Lichtenberg introduced this method in 1906.[3] They injected a solution (2 per cent.) of collargol, which is opaque to the X rays, into the renal pelvis and obtained a shadow which showed the contour of the renal pelvis. The following is the technique of the method.

A catheter is passed up the ureter by means of the cystoscope or Kelly's tube, so that the eye enters the pelvis, the contents of which are allowed to run off. The cystoscope is removed, leaving the catheter in position. The collargol solution is heated and is slowly injected. I use a solution of 10 per cent. strength and have not failed to get a shadow in any of the cases in which I have used the method. A useful means of introducing the fluid is a large all-glass syringe of 20 c.c. capacity. The needle fits in to the open end of the ureteral catheter. The fluid may be introduced by hydrostatic pressure, by holding the barrel of the syringe filled with the solution as

[1] Annals of Surgery, April and November, 1910.

[2] Annales des Maladies des Organes Génito-Urinaires, 1906, tome i., p. 519.

[3] Münchener Medicinische Wochenschrift, Jan. 16th, 1906.

DESCRIPTION OF ILLUSTRATIONS.

FIG. 1.—Calculus in the pelvic segment of the left ureter. A, Calculus; B, opaque bougie in bladder; C, opaque bougie in ureter alongside calculus.

FIG. 2.—Bilateral hydronephrosis. A, Left hydronephrotic kidney filled with collargol solution; B, upper limit of right hydronephrotic kidney; C, calculus in lower part of right kidney; D, calculus plugging outlet of pelvis; E, outline of psoas muscle.

FIG. 3.—Measurement of kidney by a graduated opaque bougie in ureter. A, A, A, Opaque half-inch segments of catheter in ureter; B, three points of the outline of the kidney; C, half-inch values placed across kidney shadow.

FIG. 4.—Pyelography in moveable kidney. A, Opaque catheter in ureter; B, upper limit of ureter; C, angling at uretero-pelvic junction; D, dilated upper calyx filled with collargol.

FIG. 5.—Pyelography. A dichotomous pelvis. A, Opaque catheter in ureter; B, normal straight uretero-pelvic junction; C, pelvis; D, upper calyx; E, lower calyx.

FIG. 6.—Pyelography. Unbranched pelvis. A, Collargol solution in ureter; B, uretero-pelvic junction; C, pelvis; D, opaque catheter in ureter

FIG. 1.

FIG. 2.

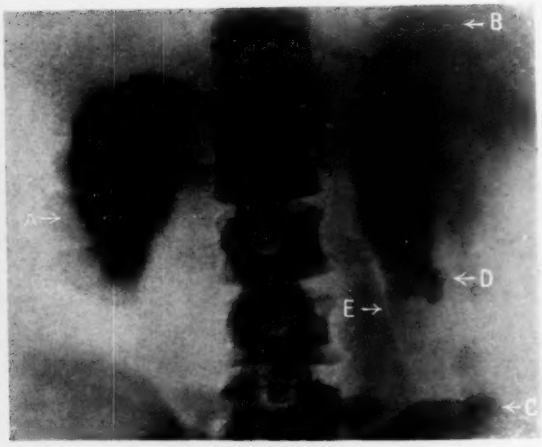


FIG. 3.

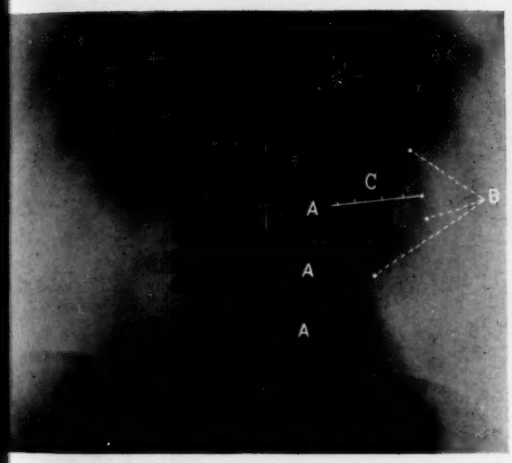


FIG. 4.

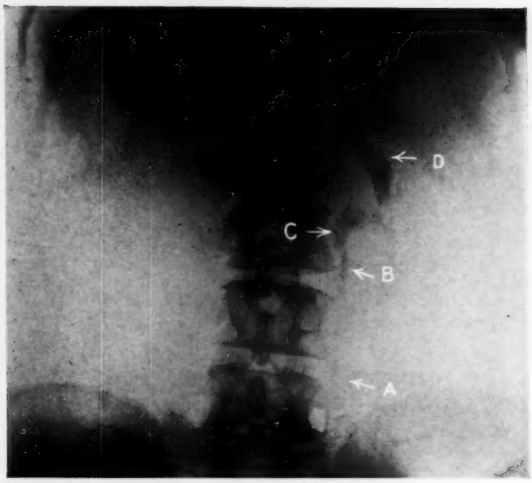


FIG. 5.

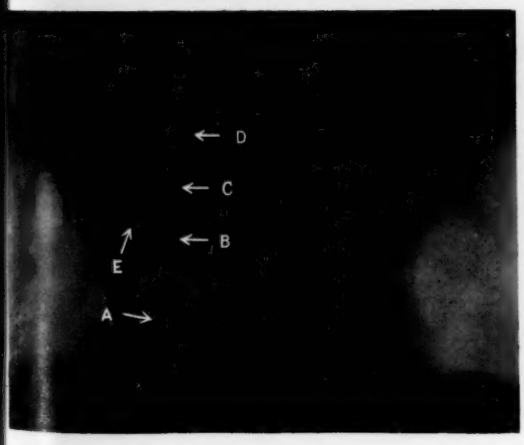
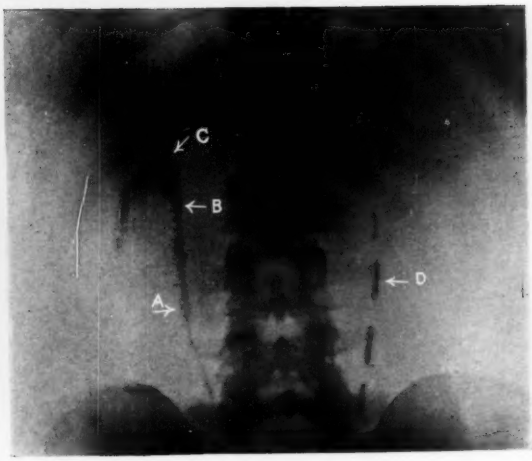


FIG. 6.



TO ILLUSTRATE MR. THOMSON WALKER'S LECTURE ON "PYELOGRAPHY AND THE EARLY DIAGNOSIS OF DILATATION OF THE KIDNEY."

high as the free end of the ureteral catheter will allow. This is about a foot above the level of the body. Or the piston of the syringe may be inserted and gentle pressure used to inject the fluid. I find it is usually necessary to use the piston, allowing it to settle down by its own weight as far as it will and then touching it gently to start it again when it becomes stationary. The quantity introduced varies with the capacity of the pelvis; 40 c.c. or more may be required in a dilated kidney. The patient gives the signal to stop when he feels pain in the pelvis of the kidney. The syringe is then removed and the end of the ureteral catheter plugged and the radiographer proceeds with his photography. I find that the value of the radiogram is much increased by the use of an opaque catheter, which shows the line of the ureter and the angle of the uretero-pelvic junction. When the radiogram is taken the plug is removed from the catheter and the fluid allowed to syphon off, the end of the catheter being held below the level of the kidney.

I have not found it necessary to leave the catheter in position for more than a few minutes, and have not required to wash out the pelvis with boric lotion, as the originators of this method suggested. The amount of pain varies very considerably in different individuals. Some patients seem to suffer no pain at all except at the time of full distension of the pelvis, and some, especially those with dilated kidneys, not even then. Others complain of a dull aching, which lasts for several hours, and one patient told me that his kidney ached for several days.

In some cases a severe attack of renal colic follows the examination. It is very important to obviate this if possible, as the tense rigid muscles obstruct the passage of the X rays, and this together with the movement of the patient and the arching of the back which interferes with the action of a compressor all militate against the production of a sharply defined shadow. A hypodermic injection of morphia should therefore be given half an hour before commencing the injection.

After the examination the urine clears in one or two days, but if the kidney is dilated it may be stained for a fortnight.

Let us consider some of the points which are important in examining the radiograms.

By means of the opaque catheter the line of the ureter can be seen and is followed up to its junction with the pelvis of the kidney. Does the ureter pass into the pelvis in a straight line or is it curved or angled? This is a point of extreme importance, for in commencing expansion there is always curving or angling at this point. In one of the plates (Fig. 4), a case of displaced moveable kidney, the ureter is seen making a sharp curve before entering the pelvis. In another (Fig. 5) the correct line can be seen, the ureter being continued straight into the renal pelvis without deviating in the slightest. The shape and size of the pelvis are important. There are two principal varieties of normal pelvis, one a dichotomous pelvis with two large branches and little, if any, dilatation at the point of division. The other, the more usual form, a funnel-shaped expansion with large and small calyces branching from it. The outline of the calyces should be examined. Clubbing of the calyces and expansion so that they become fused are signs of early dilatation. In the late stages the typical rounded bosses formed by extreme dilatation of the calyces are seen.

ILLUSTRATIVE CASES.

Let me now give you one or two illustrative cases. The following is a case of painful moveable kidney, in which I wished to ascertain if dilatation was present.

CASE 2.—The patient, aged 48 years, was sent to me at the Hampstead Hospital by Dr. T. G. Macaulay Hine. She complained of pain in the right side. The pain varied in severity and was relieved by lying down. There was increased frequency of micturition to every hour during the day and three or four times during the night. Nephropexy had been performed at another hospital eight years previously. On palpation the right kidney was readily felt in the right loin and the lower pole reached below the level of the umbilicus. I noted "the kidney appeared large, especially the upper part, which was more bulky than the lower part." The kidney moved with respiration but had a comparatively limited excursion and the lower pole appeared to swing towards the middle line so that it lay transversely. The bladder and ureters were healthy. The capacity of the right renal pelvis was 27 c.c. Collargol solution (10 per cent.) was injected and a radiogram taken. The radiogram (Fig. 4) shows the ureter passing up in front of the transverse processes of the lumbar vertebræ and opposite the body of the third lumbar vertebra it takes a sharp curve outwards as it expands into the pelvis of the kidney. The upper calyx of the pelvis is very distinctly dilated.

I explored the right kidney on March 15th, 1911, and found an elongated kidney which was fixed by a band of fibrous tissue, of the size of a shilling, to the tissues on the inner surface of the twelfth rib. This band allowed some amount of vertical movement, but the chief movement consisted in the lower pole of the kidney swinging towards the middle line. There was hollowing of the kidney which was most pronounced at the upper part. There was no narrowing of the ureter or uretero-pelvic junction. I looked upon the swinging movement as the cause of the angling of the uretero-pelvic junction and dilatation of the upper calyx, and freed the kidney, stripped the capsule from its anterior and posterior surfaces, and slung it up vertically by three catgut stitches, placed at intervals of an inch, both ends of the highest being passed through the intercostal muscles between the eleventh and twelfth ribs and tied.

In this case pyelography showed that the upper calyces were dilated, and confirmed the view that this was due to the abnormal position and the movement of the kidney.

In the following case the question whether symptoms were due to early dilatation from contraction of the outlet of the renal pelvis due to the passage of a calculus or whether the symptoms were due to pyelitis was settled by pyelography.

CASE 3.—The patient, aged 20 years, had had a stone crushed by the late Mr. Reginald Harrison at the age of 6 years, after suffering from left renal colic. For the last five years he had had pain at the end of the penis on passing urine and this had increased during the last month. The frequency of micturition was increased to two hours during the day and there was some urgency. On exertion he had pain in the left side which he localised to the region of the left kidney. The left kidney could not be felt and was not tender.

The radiographer's report was that there was no opacity from calculus, but that there was some increase in the opacity of the left flank, whether due to enlargement of the left kidney was doubtful. On cystoscopy there was basal cystitis and a patch of cystitis on the right wall of the bladder. The right ureter was open with thick edges, but contracted well, and the efflux was clear; the left ureter was large, open, oval, and did not contract. The efflux was not seen. It was probable in this case that there was some dilatation of the left kidney due to the passage of a calculus some years previously and that the dilatation might be progressive from contraction at the uretero-pelvic junction.

An opaque catheter was passed up the left ureter and warm collargol slowly injected. Pain was felt at 7 c.c. and a radiogram was taken. The plate shows the shadow of a dichotomous pelvis with calyces. The highest and lowest calyces are clubbed so that some dilatation is present, but it is insignificant. The ureter passes in a straight line into the pelvis so that there is no angling. From this I concluded that there was no important degree of dilatation.

CASE 4.—In another case, that of a man aged 24 years, there was constant aching in the right renal region which was worse on movement and better when he lay down. The right kidney could not be felt and was not tender. Pyelography showed a normal pelvis and calyces. In this case the ureteral catheter was partly withdrawn before taking the radiogram, and the collargol solution is seen passing down the ureter (Fig 6).

For the radiograms of these cases I have to thank my colleague, Dr. Ironside Bruce, radiographer to St. Peter's Hospital, whose experience and accuracy in the radiography of urinary diseases I very highly appreciate. The illustrations are taken from the original negatives without touching, except the addition of the lettering. There is a 30 per cent. loss of detail in the reproduction of such photographs and this must be kept in view in judging the excellence of the original plates.

Queen Anne-street, W.

VACCINATION IN REGARD TO LIFE ASSURANCE.[1]

BY W. H. JALLAND, F.R.C.S. ENG.,
SENIOR SURGEON TO THE YORK COUNTY HOSPITAL AND MEDICAL DIRECTOR OF THE YORKSHIRE INSURANCE COMPANY.

[Mr. Jalland began by pointing out that whereas in 1903 out of 57 insurance companies 11 altogether declined unvaccinated lives, only 6 received them without either extra premium or restriction, 11 accepted them without extra premium but excluded death from small-pox, while 19 accepted them at an extra premium, in 1910 the number of such companies declining unvaccinated lives had fallen to 3 out of 68, while those accepting them without extra premium or restriction had risen to 24. The other two classes had risen only slightly—viz., to 13 and 28 respectively. He continued:]

A question that we might put to ourselves is, Has the risk from a medical point of view diminished to the extent indicated by the present practice of the majority of British insurance companies? A further question might also be considered arising from the fact that our companies are now accepting business more or less all over the world. To what extent do we think that European lives are jeopardised by the risk of contact with natives amongst whom small-pox may be rife?

There can be no doubt that very considerable good has been obtained through enforced vaccination, and when in addition it is remembered that the improvement in the sanitary laws, the isolation now compulsory, and also the compulsory notification of infectious diseases, have largely added to the present conditions of security, one need not, perhaps, have had such great doubts as to the lessened restrictions insurance companies have been taking with regard to vaccination if one were satisfied that there would be a continuance of the safeguards imposed by the Legislature. Recent action, however, may give rise to a doubt on this point in consequence of the exemption that has been allowed on the ground of conscientious belief on the part of a child's parent or guardian that vaccination will be prejudicial to health. When that exemption was granted it was taken advantage of to a very considerable extent in England and Wales, and we find that 203,413 exercised it in 1898. In subsequent years up to 1907 the numbers were much smaller, being reported in the last-named year as 57,675; but in 1908, when the regulations were still further modified with regard to the conscientious objector, exemption being granted on a statutory declaration before a justice of the peace or other authority without the ordeal of proving his case to the satisfaction of a magistrate in open court, we find the number increased to 162,799, rising again the next year to 190,689, whilst for the first half of 1910 Mr. Burns in the House of Commons reported that 110,851 exemption certificates had been received as against 456,533 births registered in England. This means that to-day about one-fourth of the children in England and Wales are going out into the world unvaccinated, and one realises that if this continues in the same proportion we shall find in the next generation that every fourth individual met on the streets is unprotected by vaccination. Will the undoubted benefits of the laws as to sanitation under such circumstances be sufficient of themselves to maintain the present good we have secured against the ravages of small-pox? I think it is greatly to be doubted, and therefore it seems to me to be incumbent on us to sound a note of warning to our companies, so that it may be clearly seen what the issue is that lies before them. If, as seems abundantly evident, this country is always in risk of the introduction of the disease from other lands, many of which are not nearly so careful in respect of preventing small-pox, either from the persons of those coming from those lands or through the introduction of such merchandise as rags, hair, and the like, it seems incumbent on us to maintain all the means we have raised as defences against small-pox; and it is a consideration, therefore, whether with regard to business coming to be insured the company should not maintain the attitude of 20 years ago—viz., either to insist on vaccination or to put upon the policies certain emphatic restrictions regarding unvaccinated lives.

Since this paper was begun we have had an example of the prevalence of small-pox again brought before us, and it is a matter for congratulation that the gravity of the position has been referred to, both in the House of Commons and the public press. The President of the Local Government Board, replying to questions put in the House of Commons, gave particulars of the cases of small-pox notified since January this year as follows:—Cheshire, 8; Durham, 13; Essex, 2; Glamorgan, 1; Hertfordshire, 1; Lancashire, 26; London, 58; Middlesex, 1; Norfolk, 8—making a total of 118. We know, as medical men, the risk the ordinary public run from contact with those who at the outset may be suffering from the disease without knowing it, and before any benefit, therefore, can come to them from the other precautions and sanitary defences. But if in addition these risks are enlarged many times by the presence of such an increasing number of unvaccinated persons in the community, it is a matter for serious consideration and should be brought home to our insurance companies.

[Two tables were shown, copied from the Registrar-General's reports, which showed the annual mortality from small-pox per million persons during the years 1839 to 1908 inclusive, the first one in London and the second one in England and Wales. The lesson of these tables was the immense drop that ensued when vaccination was made compulsory in 1871 and reinforced in 1889 by the compulsory notification of infectious diseases, and the rapid rise that had taken place since the conscientious objector's exemption was permitted. Another table showed the number of deaths from small-pox in England and Wales for a number of years in those vaccinated, unvaccinated, and doubtful. It was difficult to get at the truth in deaths from small-pox with regard to vaccination owing to so many being returned as doubtful. Yet another table showed the number and kind of arm marks in 379 fatal cases of small-pox at the Homerton Hospital in 1871–80. This table is so significant that we reproduce it.]

Particulars of 379 Fatal Cases of Small-pox at Homerton Hospital during 1871–80.

Vaccination marks.	Admissions.		Deaths.		Mortality per cent.	
	Under 10 years.	Over 10 years.	Under 10 years.	Over 10 years.	Under 10 years.	Over 10 years.
4 good.	56	247	0	4	0·0	2·5
3 ,,	44	388	0	12		
2 ,,	41	528	1	19	2·4	4·1
1 ,,	43	422	1	20		
4 imperfect.	91	317	3	17	3·0	6·9
3 ,,	107	545	3	43		
2 ,,	142	930	17	92	12·5	12·6
1 ,,	138	920	18	129		

At present there is more small-pox in England than for some considerable time, whilst 14 cases were recorded in 1910 in the London district, with fortunately no deaths. We have noted the number of cases already reported this year. In 1909, 15 cases occurred in London, in two of which death occurred. The last bad epidemic occurred in Bristol in 1909. The first case was in December, 1908—a corn porter living at Bedminster, and at work within 14 days before sickening on a steamship at Portishead from Mariupol (Sea of Azof), and it is supposed that he contracted the infection from some infected article, possibly grain sacks.

Dr. D. S. Davies, medical officer of health of Bristol, mentions another interesting point which shows how epidemics may spread. Before the first patient had left the hospital a labourer living at St. Phillip sickened about Jan. 11th, 1909. This man had no known connexion with either the ship or the first patient, but the lapse of the incubation period ($2 \times 14 = 28$) suggested causation through an intervening missed case. He also tells us that a similarly incomplete but suggestive history in introduction by way of ships from foreign places has been obtained on at least two occasions.

Dr. J. F. J. Sykes, medical officer of health of St. Pancras,

[1] An abstract of a paper read before the Life Assurance Medical Officers' Association.

in a pamphlet on Small-pox in London, tells how this disease was imported into London through foreigners in 1890–91 and 1892. In this latter year the disease made its appearance amongst a colony of Swiss waiters. The disease at the time was epidemic in the canton of Ticino, in Italian Switzerland, of which some of the waiters were natives. This was apparently the cause of the bad epidemic which lasted through 1893 and 1894. Fresh outbreaks occurred in 1896, 1897, 1898, 1899, 1900, and 1901 from foreign sources, including Europe, Africa, America, and India.

[Mr. Jalland here quoted the comment on "Small-pox Abroad" from the Annus Medicus in THE LANCET of Dec. 31st, 1910, p. 1911, to show the wide prevalence of the disease in many foreign countries with which we have close trade relations, showing that it was no wonder that we kept on having fresh importations of the disease. He continued:]

It might be well to consider for a few minutes the safeguards we have for preventing the spread of this disease. First, compulsory vaccination. The alteration in the Vaccination Act in 1907 has now made the conscientious objector's position so much easier that I think this fact is likely to become a dead letter. [This is indicated by figures, supplied by the Local Government Board, which show that the number of certificates of exemption from vaccination received by the vaccination officers in England and Wales jumped from 57,675 in 1907 to 162,799 in 1908, and further rose in 1909 to 190,689.] The Scotch, I understand, were more cautious, the conscientious objector not being allowed in that country, but now apparently exemptions are becoming frequent. Secondly, improved sanitation and inspection. Thirdly, compulsory notification of infectious diseases.

Leicester is a striking instance of what can be done. It is, I believe, the most unvaccinated town in the country, and yet they have been able to stamp out two epidemics by carrying out what is called the Leicester plan. In the epidemic there in 1892, at which time Dr. Joseph Priestley said that only 2 per cent. of the children were vaccinated, there were 142 cases of small-pox with 10 deaths. In that of 1903 there were 400 cases. The Leicester plan is that the whole of the officials brought into contact with the disease are protected either by a previous attack of small-pox or by vaccination and revaccination. The patients are removed to hospital and the house, clothing, &c., are thoroughly disinfected, but all in the house who have been brought into contact with the patient are put into quarantine for a definite period, during which time they are provided with houseroom and food; or if they remain in their houses they are given money to pay the rent and food during the time they are compelled to remain from work. All contacts are vaccinated if willing. It is an interesting scientific fact that out of the 63 persons engaged in Leicester in the small-pox epidemic in 1903, during which time 400 patients were treated, not one contracted the disease, yet the only precaution that was taken in their case was that all, with the exception of those who had already had the disease, were recently vaccinated (Dr. Arthur Drury). This plan seems to have been successful, but must have been expensive to the ratepayers.

The following table, taken from the Registrar-General's returns of the mean annual deaths from small-pox at successive life-periods, per 1,000,000 living at each successive life-period (1847–87, England and Wales), demonstrates that a fall in small-pox mortality occurred exclusively in the young. Among adults there was a rise, increasing with the older ages, i.e., in proportion to the length of time that has elapsed since vaccination:—

Mean Annual Deaths from Small-pox at Successive Life Periods per Million Living at each such Successive Life Period (1847–87, England and Wales).

—	All ages.	Under 5 years.	5-10 years.	10-15 years.	15-25 years.	25-45 years.	Above 45 years.
1847-53*	305	1617	337	94	109	66	22
1854-71†	223	817	245	88	163	131	52
1872-87‡	114	242	120	69	122	107	47
Fall	—	85%	65%	27%	—	—	—
Rise	—	—	—	—	11%	62%	113%

* Vaccination permissive. † Vaccination obligatory, not enforced ‡ Vaccination enforced under penalties.

That this fall in child mortality from small-pox is really consequential to vaccination is borne out by the following figures, given by Mrs. Garrett Anderson, M.D., in a letter to the *Times* of Sept. 15th, 1903:—

In 1901 the deaths in vaccinated children were: at all ages under 10 years, 0; in all ages under 20 years, 3. Among the unvaccinated, at all ages under 10 years the deaths were 65, and in all ages under 20 years 95. In 1902 there were no deaths among vaccinated children at all ages under 7 years, while among the unvaccinated children of the same ages there were 337 deaths.

Most of our colonies have passed Vaccination Acts within recent times, containing excellent provisions, but apparently these have not as a rule been strictly enforced. Vaccination Acts have been passed in Natal (1906), not enforced; South Australia (1882), but compulsion appears to have been abolished in 1901; Western Australia (1878); Victoria (1890); Cape Colony (1883, amended 1897); New Zealand (1908), not vigorously administered; Transvaal (1901); Southern Rhodesia (1898, Cape Colony Act and Amendment to apply); Canada, each province legislates for itself; and New South Wales, no legislation.

Germany is an excellent example of what can be done by efficient vaccination. There vaccination within a year of birth and again during school life is compulsory by law. For 25 years Germany has had very little epidemic small-pox, although the disease has been frequently introduced into frontier towns and districts. In 1899 in a population of 54,000,000 there were 28 deaths from this disease in 21 districts; 7 of the deaths were in children under the vaccination age and 1 in an adult aged 44 who had not been vaccinated since infancy.

There is no doubt that the good effect of vaccination in infancy has a tendency to lessen as years go on, and the proper safeguard is to have revaccination in early life adult. This, although devoutly to be wished, we can scarcely hope to obtain now, while so many exceptions are being granted.

I know that many insurance companies say that they have had few claims due to death from small-pox for many years; that may be so, but is not the future bristling with danger? And ought not we medical men to throw the weight of our opinion into the scale and urge upon our various companies that it is both dangerous and injudicious to ignore the protective influence of vaccination.

York.

ON THE USE OF SALVARSAN IN THE TREATMENT OF SYPHILIS.

BY ALEXANDER FLEMING, M.B. LOND., F.R.C.S. ENG.,
AND
L. COLEBROOK, M.B., B.S. LOND.
(*From the Inoculation Department, St. Mary's Hospital.*)

MUCH has already been written on the subject of the treatment of syphilis by means of salvarsan or, as it is popularly known, "606." The chemical constitution of the new remedy and the methods by which it was discovered have been so often described that it would be mere waste of time to allude to them here, but we think it may be of some value to place on record the results we have obtained by the use of the drug during the last nine months.

Through the kindness of Professor Ehrlich we were enabled to use the remedy since August of last year. At first all our injections were made intramuscularly, but later, owing to a letter we received from Professor Ehrlich we changed the method to an intravenous one. The intravenous method has many advantages. It is much less painful, and enables the patient to get about with perfect comfort in much less time than the older method. Its effect is quicker and more certain, and recurrences are less common.

Since we started the intravenous method we have used several forms of apparatus for the administration of the drug. At first we used what seemed to be the very simplest form of apparatus—namely, a graduated funnel connected with a needle, which was inserted into a vein, the rate of flow being graduated simply by the height of the funnel. The method had been previously described, we believe, in Germany, and has since been described repeatedly with very small alterations. The advantage of the apparatus is its simplicity, while the disadvantage is that unless a very large needle is used the rate of flow is slow, and the operation takes an inordinate time in its performance, while the

use of a very large needle is rather disagreeable to the patient. Later we used receptacles for the salt solution and the "606" connected with a needle on the one hand and with a Higginson's syringe on the other, similar in principle to that which has since been described by Dr. Otto Grünbaum, but this apparatus was rather cumbersome for general use, and since January we have used solely a syringe connected by a three- or four-way tap to a needle and to the receptacles for the salt solution and the "606." A similar apparatus was long ago described for the purpose by Schreiber,[1] but we think that the form we shall describe has several advantages over the original pattern. The chief advantages are these:

1. Between the needle and the syringe there is a long flexible rubber tube, so that any movement of the syringe is not communicated to the needle, and thus damage to the walls of the vein is avoided.

2. The three-way tap is made to fit a "Record" syringe, which is in fairly general use and which has the advantage over the all-glass syringe that while it works perfectly so far as its mechanics is concerned, is not so easily breakable as the all-glass syringe. This may seem to be rather a trifling point, but it is all-important if one goes out to inject a case with "606" with only a single syringe, and if by some mishap the nozzle of the all-glass syringe breaks and leaves one helpless.

3. Between the needle and the syringe there is arranged a small piece of wide-bore glass tube, which serves when one holds it (as one does naturally in practice) with the end distal to the vein at a higher level than the proximal end, as a perfect bubble trap stopping all small bubbles of air which may enter either by a small leak in the mechanism of the tap or by some imperfection of the syringe, or by some other mishap in the course of the operation. This tube must be of a bore wide enough to allow the fluid to pass around the bubble of air instead of driving it before it, as would happen with a small tube. It can easily be made by drawing out a test-tube so as to make each end fit the small-bore rubber tubing employed while leaving a small part in the centre with the original bore.

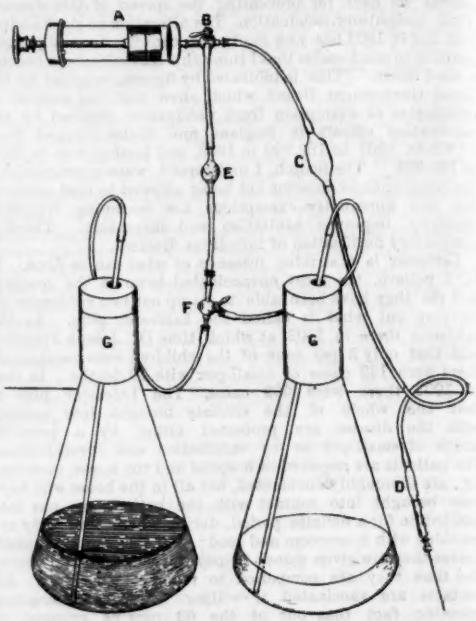
4. Between the syringe and the fluids which are to be injected there is arranged a small glass wool filter, which effectually serves to stop all particles which may, by some mischance, be present in these fluids from entering the veins and so preventing all chance of embolism by particles of foreign matter. These filters are made by blowing a small bulb in a piece of glass tubing and packing this with glass wool. Before use the first time it is well to run water through this filter to remove all small loose pieces of glass wool.

5. Two three-way taps are used (or one four-way tap), so that there is no changing of the tubes from one receptacle to the other during the operation.

The salvarsan is dissolved and made up for use exactly according to the directions enclosed with each packet of the drug, the solutions used being, of course, sterile. The amount of the fluid having been made up to 300 c.c. for the whole 0·6 grm. in a graduated vessel, the amount which it is wished to inject is poured into an Ehrlenmeyer flask ready for injection. The salt solution is conveniently made up in a similar flask, and both these flasks are fitted with double nickel caps (G in diagram), with eccentric holes just large enough to admit the delivery tubes, and these holes coincide in position or not as the outer cap is rotated, so that before the delivery tubes are in position they completely cover the opening of the flask and thus prevent contamination, and when the tubes are in position, and the drug is being administered, the opening is the smallest possible. Ehrlenmeyer flasks were adopted because they were convenient, cheap, and easy to sterilise.

It is desirable that once the apparatus has been fitted up and the solutions made, there should be no changing of the tubes from one receptacle to another. Such changing is a nuisance in the middle of the operation, and at the same time increases the liability to bacterial contamination. It can be avoided in two ways: (1) By having instead of a three-way tap a four-way tap with tubes leading direct to the flasks of salt solution, and "606," so that with different positions of the tap "606" and salt solution respectively may be drawn into the syringe and so expelled into the vein; and (2) by having the syringe connected directly with a three-way tap, so that one tube leads to the vein and the other to the solutions it is wished to inject. This latter has inserted in it another three-way tap, so that the tube is made to bifurcate, one branch going to the salt solution and the other to the "606." This second arrangement is the one we find most convenient in practice. The accompanying diagram illustrates the apparatus which is required, and which may be described as follows:—

A 20 c.c. "Record" syringe (A) connected with a three-way tap (B). From one limb of this tap there is a piece of rubber tubing 3 inches in length, then a glass bulb (the bubble catcher (C)), then about 15 inches of rubber tubing connected at the lower end into a metal fitting for an ordinary "Record" needle. Close to the needle in this long rubber tube there is a small piece of glass tube let in as a window (D). The side limb of the tap is connected by a piece of rubber tubing about 3 inches long with the glass wool filter (E) which is joined by a piece of



tubing 6 inches long, to another three-way tap (F), the limbs of which are, in their turn, connected by about 6 inches of tubing to 6-inch lengths of 5 mm. glass tubing. When in use these are placed, one in the flask of salvarsan and the other in the salt solution. Before use the whole apparatus must be filled with salt solution so as to avoid the danger of pushing air into the vein. This is easily done when the tubes are in position, and before the needle is inserted into the vein, by arranging the taps so that the syringe is in communication with the salt solution. The syringe is then filled, and the salt solution is expelled into the two other tubes in turn by altering the position of the taps. More salt solution is drawn up until the syringe is half full. The apparatus being filled with salt solution the needle is inserted into a vein. One can easily see when this has been accomplished by exerting a little suction so that blood appears in the glass window close to the needle. The bandage is taken off and the salt solution which is in the syringe is then expelled through the needle, and it is important here to be sure that all the fluid goes into the vein and does not leak into the surrounding tissues, as if such a leak is not noticed and some of the salvarsan solution is injected around the vein considerable pain and swelling may ensue. The taps are now altered so that the syringe is in communication with the salvarsan, and this fluid is sucked up into the syringe and expelled into the vein. This process is repeated until the whole of the salvarsan is injected, when the tap is altered once more, so that salt solution is sucked up and injected. About 40 c.c. of this should be injected after the salvarsan solution, so as to wash out the remains of the drug from the tube between the syringe and the needle,

[1] Münchener Medicinische Wochenschrift, September, 1910.

Summary of Cases Treated.

No.	Nature of lesion.	Intravenously.	Intramuscularly.	Result.	Wassermann reaction.
		grm	grm		
1	Tertiary ulceration of nose, progressing under very energetic mercurial treatment.	—	0·5	Practically nil.	+ 2 months after.
		0·4	—	Complete healing.	+ 5 ,, ,,
2	Secondary ulceration of throat.	—	0·5	,,	− 1 month
3	Ditto.	0·4	—	,,	− 2 weeks ,, / − 4 months ,,
4	Late secondary ulceration of throat.	0·4	—	,,	− 6 weeks ,,
5	Syphilis 10 years ago. Subcutaneous nodules on arm.	0·4	—	,,	− 5 ,,
6	Syphilis 3 years ago. Eczema, ? syphilitic in origin.	0·5	—	Eczema much improved.	+ 4 months ,,
7	Secondary rash and throat. Joint pains.	—	0·4	Complete recovery. (High fever for 10 days.)	− 4 weeks ,, / + 3 months ,,
8	Tertiary ulceration of scalp. Resisted mercurial treatment. (Injections of calomel.)	—	0·7	Partial healing of scalp. Node appeared on forehead and another on tibia.	− 6 weeks after first injection.
		—	0·5	Nil.	+ 10 weeks after.
		0·4	—	Complete recovery.	− 10 weeks after third injection.
9	Aged 14. Congenital gumma in sterno-mastoid, ulcer on neck.	—	0·05	Nil.	
		—	0·1	Gumma broke down.	Remained + 12 weeks after last injection.
		—	0·26	Complete healing.	
10	Late secondary rash and ulceration of legs. Laryngitis.	—	0·5	Rash and ulceration cleared up.	Not seen since 14 days after when +.
11	Congenital, aged 18, sinuses connected with knee-joint (?) Deaf.	—	0·4	Nil.	
		0·4	—	Some improvement in hearing.	+ 6 weeks after second injection.
12	Tertiary ulceration of neck. (Resisted mercury.)	—	0·45	Healed in 10 days.	− 2 months after
13	Tertiary ulceration of foot.	0·4	—	Healed in 20 days.	− 4 months after.
14	Tertiary ulceration of knee. Gumma shoulder.	0·3	—	Not healed in 2 months.	Still + 2 months after.
15	Tertiary ulceration over deltoid.	0·4	—	Healed in 7 days.	Not seen since 2 weeks after. Then positive.
16	General paralysis of the insane.	—	0·4	Nil.	+ 3 months after.
17	Tertiary. Periostitis humerus, 2 years. Pain in knee with erosion of bone.	0·3	—	Pain rapidly disappeared from knee and arm.	+ 4 ,, ,,
18	Congenital. Old interstitial keratitis and ulceration of thigh. No active lesions.	0·2	—	Nil.	+ 5 ,, ,,
19	Interstitial keratitis both eyes.	0·25	—	Eyes worse for 2 weeks, and not well 2 months after.	+ 2 ,, ,,
20	Interstitial keratitis.	0·2	—	Eyes much improved in 1 week.	Not seen since 1 week after.
21	Ulceration of palate, pharynx, and larynx (congenital).	0·2	—	Complete healing.	+ 2 months after.
22	Secondary rash and throat.	0·4	—	Cleared up in 1 week.	− 6 weeks ,,
23	Ulceration of throat 18 months after infection.	—	0·5	Improvement only slight.	− ,, ,,
24	Primary chancre.	0·5	—	Cleared up in 4 days.	− 6 ,, ,,
25	Ditto.	0·5	—	Cleared up in 5 days.	Not seen since.

Summary of Cases Treated—(continued).

No.	Nature of lesion.	Intravenously.	Intramuscularly.	Result.	Wassermann reaction.
		grm	grm		
26	Chancre 9 months ago. Now no lesion but Wassermann positive.	0·5	—	—	− 6 weeks after.
27	Syphilis 5 years ago. No lesion, but Wassermann positive.	0·4	—	—	− 5 ,, ,,
28	Secondary rash and throat.	0·4	—	Cleared up in 4 ays.	− 2 months after.
29	Ulcer on leg, tertiary.	0·5	—	Healed in 11 weeks.	− in 1 month.
30	Tabes. Argyll Robertson pupil. Romberg's sign, pains.	0·4	—	Pains less since 2 days after; able to work 2 hours a day longer than before.	+ 3 weeks after.
31	Tertiary ulcer on neck following operation for glands.	0·4	—	Definite but not rapid improvement.	+ 3 ,, ,,
32	Tertiary ulcer on palate.	0·4	—	Quickly healed.	+ 3 ,, ,,
33	Double interstitial keratitis.	0·2	—	Eyes much worse after.	Remains positive.
34	Iritis and granulomatous patch on skin said to be syphilitic. Wassermann reaction negative.	0·4	—	Eyes rather worse. Skin remains same.	Wassermann remains −
35	Tertiary syphilide nose and cheeks.	0·5	—	Rapid healing.	+ 2 weeks after.
36	Recurrent conjunctivitis.	0·4	—	No relapse of eye condition in 3 months.	+ 3 months after.
		0·6*			+ 2 ,, ,, second dose.
37	Chancre, rash. Throat.	0·5	—	Cleared up completely in 6 days.	− 6 weeks after.
38	Primary chancre.	0·5	—	Cleared up in 1 week.	+ 6 ,, ,,
39	Ulcer knee. Syphilis 6 years ago.	0·5	—	Cleared up in 9 days.	Not seen since 14 days after.
40	Tabes.	0·4	—	No change in 1 month.	+ 1 month after.
41	Secondary rash.	0·5	—	Disappeared in 3 days.	− 1 ,, ,,
42	Secondary rash and throat.	0·5	—	Cleared up in 5 days.	− 6 weeks after.
43	Syphilis 6 years before, superficial glossitis.	0·5	—	Cleared up within 1 week.	+ 4 ,, ,,
44	Tertiary ulceration palate. (Resisted mercury.)	0·5	—	Ulceration stopped and healing in 17 days. Perforation remains.	− 3 months after.
45	Chancre. Secondary rash.	0·4	—	Cleared up in 1 week.	+ 3 ,, ,,
46	Chancre 2 years before. Gummata on scalp. Later developed hæmoptysis and gummata on face.	—	0·6	Nil.	Remains + 7 months after first injection and 4 months after second injection.
		0·4	—	Everything cleared up rapidly.	

* Because reaction +

In all cases except where stated the reaction at the time of injection was positive.

and to wash out the portion of the vein proximate to the needle in order to avoid the possible danger of phlebitis. The needle having been withdrawn, a small collodion dressing is all that is required. The best vein to select is one of those at the bend of the elbow. The skin over the vein can very easily be sufficiently sterilised with a drop of pure lysol washed off quickly with methylated spirit. Care must be taken when inserting the needle that it does not puncture the posterior wall of the vein, otherwise when one injects the salvarsan some of it will leak out round the vein and cause much pain and discomfort. The needle during the operation must be kept steady in the vein so as not to scratch the walls, and this can well be done by passing a piece of strapping round the arm and the butt of the needle.

The patient should be kept in bed for a time, varying according to the violence of reaction. If there is no reaction we have been in the habit of letting them get up after about 36 hours, but where there is much rise of temperature we have kept them in bed for 24 hours after the temperature has returned to normal, except in some cases where they have insisted in getting about earlier, and in others, particularly the earlier ones, where we kept them on their backs for a longer period for purposes of observation. Even in the few cases, however, where the patient refused to stay in bed longer than about 24 hours, or where they got about with an increased temperature, we have seen no ill-effects.

While the drug was being administered intravenously, or immediately after in some cases, there has been a feeling of fulness and throbbing in the head, which soon, however, passes off, and the patient is perfectly comfortable for some time. In an hour or two in some of the cases there was a feeling of chilliness which passed sometimes into a rigor lasting from a quarter to one hour, the temperature rising during this period. In most cases there was a rise of temperature the next day, varying from 100° to 103° F., and in some this rise persisted until the following day. In a large number of the cases, however, there was absolutely no discomfort following the injection, and the rise of temperature was either absent or very slight. Comparatively few of the patients had any sickness following the injection, and we have never observed diarrhœa as a sequela. Exceptionally we have seen in one case, the first one we injected, who had 0·4 grm. intramuscularly, persistent high fever for a week. Whether this was the result of the injection, or whether he had the fever before and the drug did not affect the temperature, is open to question, as he was injected on the afternoon of the day on which he entered the hospital, so that no observations were made on his temperature before the administration of the "606."

As regards the effect of the drug on the lesions, in almost all cases the lesions which were present at the time of administration of the drug healed up with considerable rapidity. The first effect in some cases is that the affected part shows a local reaction, swelling up slightly and becoming red and irritable. This soon passes off and the healing process in most cases is very rapid. The results with the intravenous inoculations seem to be much more rapid than with the intramuscular ones, and 24 hours afterwards one can in some cases see a very distinct improvement.

In one case, after a dose of 0·7 grm. into the buttock, the lesion present, a large ulcer on the scalp which had resisted mercurial treatment, rapidly showed signs of healing, but a few days after a node appeared on the forehead, and later one on the tibia, which had the appearance of typical syphilitic manifestations, the original ulcer all the time diminishing in size. Another intramuscular injection did not clear up the lesions, but after 0·4 grm. intravenously all the lesions rapidly disappeared, and had not recurred four months later.

In another case where there was ulceration of the nasal septum, the only effect of an injection of 0·5 grm. into the buttock, apart from the pain which it caused to the patient, was that the ulcerative process continued with greater activity. In this case also a second dose was given intravenously, with the result that the condition improved very markedly, the ulcerative process was stopped, and healing was complete.

The effect of the drug on the Wassermann reaction seems to be variable. In some of the cases where the lesions all cleared up the reaction became negative in a time varying from 2 to 12 weeks after the injection, but in one or two of those cases in which it disappeared it subsequently came back. In other cases the reaction continued to be positive months after the injection. It is important that this should be remembered in view of the very widely circulated statements that one dose of the drug is sufficient to cure syphilis, a belief which very many of the patients seem to have acquired.

We append a summary of the cases treated, stating in each case the result of the last observation made as regards the clinical condition of the patient and the Wassermann reaction.

Whether the new drug will displace mercury in the treatment of syphilis remains to be seen, and we do not venture to express any opinion on this subject. It, however, certainly has a remarkable effect in causing the lesions to disappear, and especially is this seen in some cases which have resisted mercurial treatment. Much has been made of the dangers inherent in the administration of the drug, but so far as we have gone we have not seen the slightest trace of the evil effects which have been written about in any case which has been injected intravenously.

In conclusion, we would like to thank our chief, Sir Almroth Wright, for the great help he has given us in carrying out the work in his wards at St. Mary's Hospital.

ON "POST-ANÆSTHETIC" VOMITING.

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PORTIONS of the following article may seem somewhat trite repetitions of what everyone knows. I have, however, considered the subject in its general aspect instead of dealing more particularly with a special group of cases—partly to draw a general conclusion and partly because, although many of the facts may be common knowledge, I have good reason to believe that their bearing on practice is not always duly appreciated by surgeons and practitioners.

It is not too much to say that there is a prevalent impression that vomiting usually and inevitably follows any (except a momentary) anæsthetisation, that when marked and persistent it may be assumed that the anæsthetic *per se* is the cause (at any rate, during the first 24 hours), and that anæsthetists should take more pains to devise methods by which it may be avoided. I shall endeavour to show that, on the contrary, sickness to any serious extent does not occur, provided the anæsthetic is properly selected and given, unless there are special reasons influencing its effect. This proposition, so far from diminishing the responsibility of the anæsthetist, tends to increase it by defining it more strictly. At present, when sickness avoidable by him occurs, he is sometimes excused, whilst when this is unavoidable he is sometimes blamed. When the anæsthetist works under abnormal conditions normal results cannot be expected from him any more than from the physician or surgeon, although he should unquestionably do his best to attain them. A more serious result of a mental attitude not uncommon is that prevention and treatment are apt to be perfunctory and ill-directed.

Special consideration of "delayed chloroform poisoning" will not be attempted, for, like many anæsthetists, I have no personal experience of the condition. Apart from this disaster, vomiting in any marked degree after anæsthetisation entails so much discomfort, exhaustion, and even danger that the importance of the subject need be only briefly dwelt upon. It is especially harmful in the very young, old, and weakly. It often causes much pain in the wound and may interfere with healing. It may spoil the surgeon's work in some operations, and when one has been done upon a hollow viscus it may bring about a catastrophe from extravasation.

Causation.—Amongst possible causes are: (1) The habitual state of the patient; (2) the disorder which led to the performance of the operation; (3) faulty preparation; (4) the anæsthetic, or the way in which it is given; (5) swallowing of mucus, blood, &c.; (6) the operation, or some complication following it; and (7) faulty after-treatment. On looking down the list it is obvious that although the term "post-anæsthetic vomiting" is in common use, and is always literally correct (*post non ergo propter*), there may be instances in which its use gives a wrong impression, and in which neither the anæsthetic nor the anæsthetist can be properly held responsible. Some causes are beyond his control, and may be, indeed, beyond the control of anyone. Usually, however, many factors combine in varying proportions, and it may be hard to say which has had the greatest share in the mischief. I have therefore enumerated them for consideration.

1. Sensitive people, liable to sea-sickness and train-sickness, are likely to suffer, especially if previous experience entails anxiety. A simple operation for which *no* anæsthetic or only such as nitrous oxide-and-oxygen has been given, may in them be followed by prolonged nervous disturbance. It may be expected in those whose blood is

charged with impurities from over-feeding or defective elimination, whether they are florid and muscular or sallow and flabby. Independent of conditions for which operations are required there are diseases too numerous to mention, which may act as predisposing or intensifying causes.

2. Any condition, abdominal, cerebral, or otherwise, which caused vomiting before the operation intended to relieve it, will be likely to cause its persistence afterwards if no complete removal has been possible. For this reason some surgeons have emphasised the need for emptying the bowels when distended by intestinal obstruction, and for leaving an artificial anus if it is impossible to do so at the time. In septic and other toxæmic states damage of the liver by over-work in getting rid of poisons will predispose to that form of vomiting which is associated with acetonuria.[1]

3. The need in most cases for moderate purging and several hours' fasting is not always realised. A meal given some hours before may be ejected almost unaltered, digestion having been disturbed by worry or a change in the usual feeding time (Case No. 4). Such vomiting, once started, tends to persist. On the other hand, too prolonged fasting or too strict limitation of diet may act harmfully by disturbing metabolism, exhausting the patient, and so interfering with a speedy return to normal stability. Some have attributed "delayed chloroform poisoning" to this cause, especially to lack of carbohydrates, and have described a "fasting acidosis" which may be inferred to have in many instances some effect, short of producing the characteristic symptoms of the above-named condition.

4. Nitrous-oxide seldom causes vomiting, but may do so in exceptional cases, or when given continuously. There is more apt to be vomiting after ethyl-chloride, and it may be serious after prolonged administration. Chloroform is less constantly followed by sickness than is ether given by the usual methods, although when vomiting does occur after the former it is more apt to be severe and persistent. It has been found that the excretion of acetone by healthy children after anæsthetisation shows a corresponding difference. As regards chloroform-ether mixtures (C.E.) nothing characteristic has been observed, so far as I am aware. In my own practice I have found that vomiting in uncomplicated cases has been absent or slight, and the after-condition altogether satisfactory. The same may be said of ether by the open method. It has been found[2] in laboratory experiments that degeneration of the liver seen after chloroform-inhalation has been increased by its prolongation. Still, as regards the practical effect of anæsthetics upon human patients, I cannot agree with Mr. Lockhart Mummery[3] and others that severity of vomiting is "proportionate to a large extent to the length of the administration," although it is no doubt increased by any approach to overdose or to asphyxiation. When a long operation is needed other causes more often enter into combination than when this is short. Thus, in 50 consecutive cases lasting 30 minutes or less (vomiting absent 39, slight 10, recurrent 1) there were only 3 operations involving the peritoneum; whilst in 50 lasting 45 to 75 minutes (vomiting absent 25, slight 17, recurrent 8) there were 27. After 7 cases lasting over 2 hours, sickness was absent in 3, slight in 3, moderate in 1; if mainly dependent on duration it should have been severe in all. Drugs which are impure or stale may have toxic effects.

5. When there are oral sepsis, chronic rhinitis, and pharyngitis, excess of mucus is secreted, especially under ether, and after contamination some unavoidably passes into the stomach. Post-anæsthetic vomiting has been attributed mainly to the swallowing of mucus "saturated" by the anæsthetic, but when one considers in how many different ways the vomiting centre may be stimulated, it is obvious that this is a very narrow view. Moreover, the worst vomiting follows chloroform, which does not increase secretion. Blood in the stomach is almost always ejected, even if the quantity is but small.

6. The proceedings of the operator may unavoidably cause after-sickness, by altering intracranial pressure, by direct effect on various organs, by reflex irritation, or by disturbance of excretion. The expansion of the chest may be hampered afterwards by posture, pain, or bandaging, and there may be reflex inhibition of diaphragmatic respiration; so that elimination is delayed.

A sister who has had considerable experience of operations on the kidney once told me that after a fixation of that organ she always expected troublesome vomiting, but not always after its removal. I have noticed the same in regard to operations on the uterus, and when it has been necessary to leave clamps, plugs, &c., in wounds. One would indeed expect that when there is persistent tension with intact nerves, reflex vomiting would be more frequent than when such is not the case. After nephrotomy there may be pain and vomiting from passage of clots down the ureter.[3] Such possible complications as peritonitis, septicæmia, &c., need not be enumerated. Acute dilatation of the stomach is rare, but should be borne in mind. Formerly one had to remember that antiseptic dressings may poison.

7. Faulty after-treatment may consist in jolting; feeding and allowing movement too soon; neglect to ventilate the room; allowing noise and emotional disturbance.

Prevention.—When there is time and opportunity full inquiry should be made into the history and condition of patients and the excreta should be examined. The nature of "bilious attacks" should be, if possible, ascertained, especially in children. Every endeavour should be made to attain a satisfactory state, in view of the *anæsthetisation*, no less than the operation. Such preparation may include medicinal, dietetic, or spa treatment, and the attentions of the dentist. Neurotic patients need encouragement, and a few doses of some sedative, such as bromide of sodium, chloretone, or chloralamide. The surgical preparations should, as far as possible, be so arranged as not to cause them alarm.

Directions as regards fasting and evacuation are especially needed when the operation is to take place in a private house or at some unusual time. Modifications must be made according to the patient's age and condition, but as a rule if the operation is to be before 10 A.M. nothing should be taken after the previous evening, except thin barley water or tea (with hardly any milk or sugar). If before 1 P.M. clear soup or tea with toast can be given about four hours before. If later, a light breakfast (an egg or a little fish) at 8 A.M., with a cup of soup at 12 or 1 if the operation is at 4 or 5 P.M. Moderate quantities of water or other simple drink may be allowed to within an hour of the operation; if refused there may be much discomfort.

In most cases it is better to give an aperient two nights before the operation than the night before, only food easily digested (but not sloppy) being taken on the following day, and an enema given in the evening. This plan gives a night free from disturbance. The nurse should notice the character of the stools, and more may need to be done if there is evidence of constipation. Purging that is excessive or too close on the time of operation should, however, be avoided, especially in very young, old, or exhausted subjects. It not only has bad general effects, but is liable to result in atony, gaseous distension, and nausea.

The teeth should be cleaned and the mouth well rinsed. Excess of saliva and mucus may be avoided by injection of atropine (gr. 1/100) and by not giving ether, especially with an inhaler, to unsuitable subjects. I have not observed any advantage (as regards after-results) in the use of scopolamine and morphine injections.

The anæsthetic and method must be carefully chosen with regard to all the circumstances, including possible after-effects. The administrator should do everything possible to maintain a free air-way and subdue rigidity. These sentences are italicised, for it is in these respects that unskilled administrators usually fail. Oxygen may sometimes be given with advantage, but it should not be used merely to counteract cyanosis unless all other measures have proved unsuccessful. The depth of anæsthesia should be carefully regulated to meet requirements.

Washing out the stomach may be sometimes advisable before return to consciousness, especially in cases where intestinal contents, mucus, or blood have passed into it.

F., 86. Had been vomiting for five days (hernia, self-reduced *en masse*). The operator was averse to the stomach being washed out before operation, but with his assent I did so afterwards, removing a quantity of stinking fluid. No subsequent vomiting, such as would probably otherwise have occurred in spite of the relief of obstruction.

The patient should be carefully moved and the room quiet, somewhat darkened, and well ventilated. The right lateral position is usual, with the head low and turned to one side. A pillow under the mattress on the left side well maintains this position.

The Fowler, or semi-recumbent, position (with head and shoulders still to one side) may be preferred for surgical

reasons, and it may be recommended (after abdominal operations especially) with particular reference to the prevention and relief of sickness. Firm bandaging is advisable after abdominal and renal operations. After the latter some flatulent distension is usual, even when the kidney has been only felt and not wounded. The use of a flat sandbag has been advised in conjunction with the Fowler position after laparotomy as lessening the tendency to vomiting and affording a comfortable support.[4]

The question of using local or spinal analgesia may arise if after-sickness has, in spite of precautions, given much trouble on a former occasion, or would be especially harmful.

Treatment.—If vomiting happen before return to consciousness the head must be kept low and on its side, and the lips, if necessary, opened. A gag or mouth wedge should be at hand, but the tongue should *not* be pulled out nor the jaw pushed forward as sometimes advised, unless laryngeal spasm is continued, and after swabbing out the throat, for by so doing the air-way is opened and there is increased risk of vomited fluid or particles being aspirated. The pharynx and lower cheek may be gently swabbed out on cessation. The mouth can be frequently rinsed, but usually nothing should be swallowed for four hours at least. Sips of fluid are as likely to cause sickness as drinks and do not clear out the stomach.[5] Tea without much milk or sugar or clear soup according to taste should be given first, not milk nor milk-and-soda. In special cases the surgeon gives his directions.

If vomiting recur one should not "try" one after the other (as I have known done) a variety of domestic remedies and sedative drugs in the hope of hitting upon something that will stop it. As in other disorders, one should first consider what is the probable cause of the symptom and then select remedies accordingly. If there has been swallowing of blood or mucus or complaint of the taste of ether it is best to give half a pint of hot water containing a teaspoonful of bicarbonate of soda. This will probably either wash out the stomach into the bowel or cause an effectual and final vomit. It may, however, be necessary to repeat it after an interval. Black coffee, to which some add bicarbonate of soda, also iced champagne in small quantities have seemed to do good. The taste and smell of ether may be overcome by the use of thin slices of lemon and of toilet vinegar.

Neurotic patients may need sedatives, and for them the "counter-irritation" of a mustard-leaf on the epigastrium may be recommended with confidence. Morphine is apt to increase flatulence, but is valuable if there is pain or reflex irritation. It must be given with caution, for sometimes it would merely mask a complication or (e.g., in acetonuria) only add to the mischief.

When vomiting threatens to be severe or continuous the operator (and, I would add, the anæsthetist) if not aware of it should be informed. It is desirable that a detailed examination should be made of the urine, especially after interference with any part of the urinary tract and when acid-intoxication may be suspected. A disturbance of metabolism or of elimination sufficient to be the prime cause of vomiting will probably be accompanied by other symptoms which should compel attention. Still, I venture to think the impression that vomiting almost invariably follows an anæsthetisation may be responsible for some cases of mild uræmia or acetonuria escaping recognition.

If there is atonic distension, strychnine, pituitary extract, or ergotinine (hypodermically) is often effective, and the bowels should be well cleared out by enemata if not acting. A rectal tube may be left in for an hour or so at a time and the abdomen massaged if there is no contra-indication. Mr. Bidwell[5] advises lavage of the stomach if vomiting and eructation persist, especially when there are signs of decomposing contents. Inhalation of oxygen is indicated when there are signs of defective aeration.

Glucose is valuable both before and after operations, not only to prevent or combat acid-intoxication, but as a food which makes no call on digestion. A tablespoonful can be given with water and lemon-juice three times or more in the 24 hours, or in special cases it may be given by the rectum or intravenously (2·45 per cent.). Raisin-tea contains an appreciable amount.

Lately I have noted results of 407 administrations (not selected, but excluding nitrous-oxide and ethyl-chloride cases). There was no vomiting in 245, slight in 114; in 33 it recurred within the first few hours; in 15 it lasted longer. That is, three-fifths of the patients (on some of whom operations had been long and severe) had no vomiting, and this was inconsiderable in the majority of the rest, there being less than 4 per cent. of the total in whom it was marked.

Snow and Clover reckoned that vomiting after ether and after chloroform took place in one out of seven administrations (over 14 per cent.). They probably refer to severe cases only, not to transient vomiting. Rigden found vomiting to occur in 32 per cent. of his chloroform cases, and of these it was noted as troublesome in 16 per cent. After ether it occurred in 50 per cent., and was considerable in 15 per cent.[6] Blumfeld[7] found some sickness occurred after two-thirds of 571 administrations (chiefly gas and ether); in most of these it was transient. It must be remembered that the older statistics include few if any renal cerebral and abdominal operations.

A few details are given of the 15 cases:—

1.—F., 16. Florid, emotional. Removal of cervical glands. C.E. 30 minutes. Vomited 10 times in 24 hours. Did so on a former occasion elsewhere.

2.—F., 16. Florid, receding chin. Mastoid. C.E. 50 minutes. Vomiting recurred for two days. Same after former operation elsewhere.

3.—F., 25. Craniectomy (cerebellar disease). C.E. induction—$CHCl_3$ 90 minutes. Vomited five times in first 24 hours, and slightly next four days. Vomiting had been a predominant symptom before operation.

4.—M., 12. Mastoid. Vomited during induction a quantity of food taken four hours previously. Bone very hard (enclosing two collections of pus), consequently a good deal of jarring. Vomiting for two days. Had been previously anæsthetised by me (ossiculectomy) without such result.

5.—F., 40. Gastro-enterostomy. E.C. and E., followed by C.E. 45 minutes. Vomited 10 times in 24 hours, not violently.

6.—F., 27. Laparotomy. Malignant disease found, with adhesions of bowels. E.C. and E., followed by C.E. 35 minutes. Vomited six times in 48 hours.

7.—F., 35. Ectopic gestation. C.E. 1 hour. Vomited at intervals for 48 hours. Much pain at site of operation.

8.—F., 45. Carcinoma of ovary adherent to sigmoid. C.E., followed by $CHCl_3$ 90 minutes. Vomited two days and nights; temperature rising. Pelvic abscess quickly followed operation.

9.—F., 25. Cholecystotomy. Scopo-morphine 2 c.c. C.E. 40 minutes. Vomited for three days and nights. Had much sickness after operation on a limb when a child. There was extreme reflex disturbance on manipulation of the gall-bladder. In another case, curiously similar as regards general condition, sex, age, date, place, operation, and anæsthetisation, there was no such trouble and only slight after-sickness. The differences in result must, I think, be ascribed entirely to the difference in nervous sensibility.

10. F., 42. Ventrofixation of uterus. E.C. and E. 45 minutes. Vomited seven times in 30 hours. Neurotic morphia-taker. Had been very sick before operation.

After a Wertheim's operation, lasting under C.E. and $CHCl_3$ 105 minutes, there was no vomiting. After 11 hysterectomies, none or slight.

11.—M., 18. Nephrectomy and excision of ureter. C.E. 75 minutes. Vomited occasionally for 36 hours.

12.—M., 21. Nephrectomy. As last. Tuberculosis.

13.—F., 40. Nephro-lithotomy. C.E. 70 minutes. Vomiting (not serious) for two days.

After 21 other renal operations it was absent, slight, or (in a few) recurrent for some hours. For nephropexy I can recommend open ether, with previous injection of atropine and morphine.

14.—M., 63. Prostatectomy. C.E. 20 minutes. Vomited often for a week, then slightly for three days, but without serious effects. Oral sepsis. Liable to "bilious attacks."

15.—M., 72. Prostatectomy. C.E. and ether (open). Vomited occasionally for two days. Emphysema, dilated heart. Very sallow, liable to vomiting for many years.

After four other prostatectomies vomiting recurred for some hours in association with considerable spasmodic pain. After the remaining 34 it was absent or slight.

These results strengthen the impressions of some years' experience, and I conclude that sickness is by no means a constant result of anæsthetisation and should not occur in any marked degree unless there are unavoidable predisposing or concurrent causes.

The differing effects of various anæsthetics suggest many complicated problems not yet worked out in the laboratory, and meanwhile the anæsthetist must be guided chiefly by clinical experience. But in regard to this last more might well be done. Dr. Dudley Buxton[8] has urged the advisability of better opportunities being afforded for investigation by the anæsthetist of the patient's condition previous to administration. Whilst (I need hardly say) agreeing with his proposal, I would extend it to all cases in which after-effects occur for which the anæsthetist may in any degree be

considered responsible. At present it must, I think, be admitted that his position is apt to be unsatisfactory, for he does not seem to be always even notified of their occurrence. By fuller coöperation amongst all concerned these troubles will be better understood, and therefore more often avoided, or, if they must happen, more effectively treated.

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AN INQUIRY INTO THE CAUSATION OF INFECTIVE ENDOCARDITIS.*

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MUCH has been written of late years on the causation of infective endocarditis, but no unanimity on the subject has yet been arrived at. With elaboration of the methods of bacteriological investigation much attention has been drawn to this side of the question, but still without it being definitely settled. It seemed to me that some useful information might be obtained from a combined study of the post-mortem examination and of the onset of the disease in a series of cases, and this paper is a study of the records of 100 cases from this point of view.

Infective endocarditis is always bacterial in origin, but is not due to the same organism in all cases, as is now fully recognised. In some cases there can be no question about the specific organism—cases in which there is an obvious infective focus, e.g., an osteomyelitis or septic uterus. But in a large group of cases no infective focus can be found. Concerning this group of cases there is great difference of opinion, for though the organism can be, and now usually is, obtained, nevertheless there frequently exists a doubt as to the exact species found.

Dr. T. J. Horder[1] gives the result of the bacteriological examination of the blood of 40 cases. Of these cases there were found: in 26, streptococcus; in 5, bacteria influenzæ; in 5, pneumococcus; in 2, gonococcus; and in 1, staphylococcus. One was unclassified. Concerning these there can be no doubt as to the causative organism except in the 26 due to the streptococcus and 1 unclassified. It is the cases due to streptococcus in which the difficulty arises, since there are so many varieties of streptococci. This leads us to the vexed question of the relation of the streptococcus to the rheumatic diplococcus, and it is this point I wish to pay particular attention to, as it is one in which, I think, much useful information may be obtained from a combined examination of the post-mortem findings and of the clinical side of the question.

This relation of rheumatism to infective endocarditis, to which, then, the inquiry becomes narrowed, is of great importance. The late Professor Julius Dreschfeld[2] describes acute endocarditis as a local lesion occurring as a complication in the course of some general septicæmia, and further says that of the two forms, the simple and the malignant endocarditis, there is now abundant evidence that they represent but different degrees of one and the same process. Hence, in his opinion that which causes simple acute endocarditis may also cause malignant endocarditis.

Professor W. Osler, in the Goulstonian lectures in 1885, points out the difficulty of the classification of cases of acute endocarditis, either from the macroscopic appearance of the valves or from the clinical aspects. This is amply borne out in examining a large number of post mortem and clinical notes of acute endocarditis, as I have in some cases had the greatest difficulty in determining from a combined study of the post-mortem records and the clinical notes whether a case should be labelled simple or infective endocarditis. The vague term "vegetative endocarditis" by which they are labelled is not helpful. Further, Professor Osler points out that infective endocarditis, supervening in the course of some particular disease as rheumatism or pneumonia, may be regarded as directly produced by the causes which have excited the original disease.

Opinion on the causation of acute rheumatic endocarditis is not unanimous, which makes more difficult any inquiry into that of infective endocarditis.

In 1900 a paper was published by Dr. F. J. Poynton and Dr. A. Paine[3] on the etiology of rheumatic fever. They, whilst engaged in investigating the possibility of Achalme's bacillus being the specific micro-organism of rhematic fever, found in eight successive cases of undoubted rheumatic fever micro-organisms in the form of diplococci. This discovery, together with the results of inoculation of these diplococci into animals, together with a microscopic investigation of various tissues, led them to deduce that this diplococcus is a cause of rheumatic fever, but owing to the results of other workers they did not feel justified that this micro-organism is present in every case or is the sole cause. They held this diplococcus to be identical with those discovered by Triboulet in 1897 and Wassermann in 1899. Further, they add that infective endocarditis being due to mixed infection is, perhaps, held on insufficient grounds—that some cases of rheumatism may depart from the usual type and become malignant without any added infection.

In May, 1901, Dr. Poynton and Dr. Paine[4] published another paper, having continued their investigations and isolated the diplococcus in 16 cases of rheumatic fever. They had found the diplococcus in the nodules of two cases of rheumatic fever, and by injection of these produced in a rabbit valvulitis, pericarditis, and polyarthritis; and also they isolated the diplococcus from the joint exudate of this rabbit.

On the other hand, Gustav Singer[5] attributes rheumatism to non-virulent strains of pyogenic cocci, maintaining that the diplococcus isolated by Wassermann and Meyer is an attenuated streptococcus which grows well in an alkaline medium. He maintains that the production of arthritis in rabbits by the diplococcus is no proof that it is rheumatism from which the animal is suffering, maintaining, as he does, that rheumatic fever cannot be reproduced in animals. From five cases of rheumatism he isolated strepto-diplococci, which from their morphological and cultural characters he calls streptococcus pyogenes. He performed no inoculation experiments with these.

Dr. W. Bulloch[6] gives a very complete account of the work done on the causation of rheumatism. He ascribes the divergent results obtained to insufficient accuracy in the details of diagnosis and technique. Dr. Bulloch holds that the specificity of the diplococcus rheumaticus is not proven, and goes on to point out that Menzer produced identical results from streptococci isolated from a mammary abscess and also puerperal sepsis, as from the tonsils in a case of rheumatic fever. That Cole has recently produced a condition of arthritis in rabbits with six strains of diplococci obtained from cases in no way resembling rheumatism. Not only arthritis was produced, but in two cases valvulitis.

Another objection raised is the difficulty to isolate the organism, and the failure of so many competent observers to find any microbe in cases of rheumatism. Dr. Bulloch and Dr. Theodore Thompson failed to obtain any results in 20 cases of rheumatic fever. Dr. Poynton and Dr. Paine[7] have pointed out that, if Singer's conclusions are correct, it should be possible so to attenuate a culture of pyogenic streptococci as to produce a non-suppurative arthritis, and also to increase the virulence of the diplococci obtained from a case of rheumatism so as to produce suppuration. In spite of the failure of Dr. Bulloch and Dr. Thompson to find any micro-organism in a series of cases, yet they still hold that if the case be chosen carefully and sufficient time and care be spent in the investigation the diplococcus would always be found. In a recent paper Dr. Poynton and Dr. Paine[8] report cases in which they have investigated the diplococcus separated by Dr. F. H. Thiele, Dr. J. G. Forbes, Dr. T. Lewis, and others from cases of undoubted rheumatism, and found that in the laboratory it conformed to the character of the diplococcus rheumaticus, and on experiment produced multiple arthritis and pericarditis of the usual type.

Dr. E. W. Ainley Walker and Dr. R. M. Beaton by their investigations confirmed the results obtained by Dr. Paine and Dr. Poynton.[9] Dr. J. M. Beattie from his investigations concludes that the micrococcus rheumaticus is a special organism and is causal in acute rheumatism.[10] Dr. W. Vernon

* Portion of thesis for M.D. Cantab.

Shaw concludes that the diplococcus rheumaticus is the actual infective and causal agent of acute rheumatism.[11]

Reviewing the evidence briefly adduced, I incline to the view that this diplococcus described by Dr. Poynton and Dr. Paine and by others, belonging clearly as it does to the streptococcic group, is the cause of rheumatism, always bearing in mind the French researches on Achalme's bacillus, which they themselves admit may take a diplococcal form. It appears to me that no convincing evidence of some other bacterial infection occurring in acute rheumatism is forthcoming, and at the present time this inclines me to the opinion that it is the only cause. In admitting this opinion, I should readily grant that there are various strains of the diplococcus, as there are of the pneumococcus.

The Relation of Rheumatism to Infective Endocarditis.

If, then, rheumatism is due to a streptococcus, and infective endocarditis, which is a septicæmia, has from all statistics a close relation to rheumatism, it is, at any rate, possible that the diplococcus of rheumatism and the micro-organism in some cases of infective endocarditis are of the same species.

Dr. Horder[1] expresses his view of the relation of rheumatism to infective endocarditis thus:—

> When an infective endocarditis follows directly upon a rheumatic endocarditis it seems clear that a new factor has arrived in the diseased process, comparable with the pyogenic infections (usually streptococcal) which not infrequently complicate scarlet fever. It is rheumatism complicated by streptococcal or other infections of the endocardium.

That is to say, Dr. Horder would appear to compare scarlet fever with acute rheumatism in that they are conditions presumably infective, but the nature of the infection as yet unknown, and then to put side by side malignant scarlet fever and infective endocarditis following on rheumatism as the result in each case of a superadded streptococcic infection.

The objections that struck me to this explanation are two-fold: first, the comparison between acute rheumatism and scarlet fever appears far-fetched, seeing that one is highly infectious and the other strongly hereditary; the other is to delimit what manifestations, if any, of acute rheumatism must be included in the comparison between it and scarlet fever—e.g., is the arthritis of rheumatism to be looked upon as a complication or, again, simple endocarditis? If, on the other hand, none of the manifestations of rheumatism are to be looked upon as other than complications, what does Dr. Horder mean by acute rheumatism? And, as I have already stated, I am of the opinion that the evidence favours the presence of streptococci in rheumatism.

In 1903 Dr. Poynton and Dr. Paine[12] undertook certain investigations with the streptococcus which they look upon as a cause of rheumatic fever, with a view of ascertaining if it is not a cause of infective endocarditis. They were led to the investigation by the discovery that this organism when isolated from acute rheumatism—i.e., rheumatic pericarditis or simple endocarditis—might produce in animals both a simple—i.e., healing endocarditis—and also an infective endocarditis. Having found it might produce both they next turned to the investigation of streptococci, isolated from infective endocarditis which, from its clinical history, appeared to them to be rheumatic in origin. As a result of this, they found that the streptococcus isolated from such cases was indistinguishable in its characters from the diplococcus rheumaticus, and might produce in rabbits either infective endocarditis or rheumatic fever, including in the latter simple endocarditis or pericarditis.

I undertook the examination of the 100 cases to see whether by clinical and post-mortem examination there is any confirmation of the view that there is an added infection in infective endocarditis. In 58 cases of the 100 there were old cardiac lesions, as shown by the necropsy. Of the remaining 42 there was doubt in 8 cases. In 27 cases there was an infective focus from which it might reasonably be supposed the septicæmia arose. Of these 27 cases there was a rheumatic history in 7 and there were old cardiac lesions in 10. Of the remaining 73 there was a rheumatic history in 52 cases and old cardiac lesions in 48, and in 9 of the remainder it was doubtful as regards old cardiac lesions.

These figures, if we consider them, bring out one point strongly. In the 27 cases in which an infective focus was found, and which no one could reasonably call rheumatic in origin, there is a history of rheumatism in 7 out of 27—i.e., 25·9 per cent.—whilst in the 73 in which no infective focus was found there was a rheumatic history in 52 cases—i.e., 71·2 per cent. Again, in these 27 cases there were old cardiac lesions in 10—i.e., 37 per cent.—whilst in the remaining 73 they were present in 46—i.e., 63 per cent.

This is important evidence if Dr. Poynton's views are correct on the significance of old valvular lesion. He holds[3] that the important feature of the valves scarred by previous disease is not the scar-tissue, but the areas of necrotic tissue which are found in the scar-tissue, and in this necrotic tissue the diplococcus rheumaticus has its abode, and is with difficulty destroyed owing to the avascular condition of the valves in this condition. If this be so the presence of old cardiac lesions in 63 per cent. in which there is no obvious cause points to the possibility of the previously affected valves being the focus which has been lighted up, comparable to the foci in the 27 cases mentioned above.

To examine more closely the 73 cases in which there was no infective focus demonstrable, as mentioned above, there was a rheumatic history in 52 out of the 73 cases—that is to say, there was a previous history of rheumatism, or the final illness commenced with rheumatism, taking as rheumatism a history of pain and swelling of joints, or endocarditis, or chorea. Of these 52 cases, the rheumatism passed, so far as one could judge, insensibly into infective endocarditis in 32 cases—i.e., 61·5 per cent. According to Dr. Horder, at some stage there has been a secondary infection. Are there any grounds clinically for this statement?

One does not see in these cases which pass imperceptibly from rheumatism into infective endocarditis a sudden exacerbation, but it is a long chronic illness, the patient gradually losing ground. As a rule these patients do not come into hospital until they have been ill for weeks or months, as is shown by this series of cases, but even so the average length of their illness in hospital is about two months.

One point which is brought out by the history of these cases is that, though the patient may be apparently recovering from the attacks of rheumatism and may lose all pain in the joints, nevertheless from the after-history the endocarditis must have been progressing insidiously. Thus, there are several examples of patients who were admitted for acute rheumatism and improved to such an extent as to leave the hospital, but who returned in the course of a month or two to die from infective endocarditis. The majority of these cases had suffered from rheumatism at some time previous to their final illness, and so on admission had signs of endocarditis, and post mortem the valves showed old-standing lesions.

There is another point which has always to be considered in dealing with a problem of rheumatism—namely, the action of the salicylate salts. There are many who hold that all cases which are truly rheumatic will be influenced favourably by the action of these drugs. If this attitude be adopted, it may be argued that the more chronic cases of this series—which were looked upon from the first as rheumatism and were treated by salicylates—proved by their fatal event either that they were mistakes in diagnosis or were rheumatism complicated by added infection. At the present time, if under rheumatism we include acute endocarditis, I cannot convince myself that this line of argument is a sound one. I would further point out that the attack of arthritis in these cases of infective endocarditis subsided as does simple rheumatic arthritis.

I would emphasise that I have not attempted to adduce evidence that all cases of infective endocarditis with a history of previous attacks of rheumatism are rheumatic in origin. In 7 cases out of 27 due to an obvious infective focus there was a rheumatic history, but no one would hold that these cases are due to, and are part of, a rheumatic process. There are also many cases in which there is no obvious cause found, but which have a rheumatic history, yet one cannot say that they are due to the rheumatic diplococcus. Undoubtedly the causation of these cases is very varied. But the evidence adduced, both from the bacteriological work of Dr. Poynton and Dr. Paine, and from that obtained by the study of this series of cases, is in favour of the view held by Professor Osler in 1885—namely, that infective endocarditis, supervening in the course of some particular disease as rheumatism or pneumonia, may be regarded as directly produced by the causes which have excited the original disease.

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SANATORIUMS FROM WITHIN.[1]

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In Conjunction with a Patient.

SANATORIUMS have played a notable part in the campaign against tuberculosis, and their value, both curative and educational, is generally acknowledged. Many able and exhaustive books have been written on the subject, but it is possible that some service may still be rendered by briefly considering sanatoriums from within—not so much from the strictly scientific point of view as from the more human and personal one of the sanatorium inmate.

Sanatorium Accommodation and its Employment.

In the first place, it may be noted that in this country the available sanatorium, hospital, and other suitable hygienic accommodation, is probably insufficient for more than 1 per cent. of the total number of patients suffering from pulmonary tuberculosis. When it is remembered, too, that many of the existing sanatoriums are by no means full, and, further, that in not a few a considerable proportion of the beds is occupied by advanced and more or less hopeless cases, it is at once obvious that the proportion of early and curable consumptives receiving the benefit of sanatorium treatment is very small, and that, if sanatoriums are to prove a main factor in the eradication of tuberculosis, we must have more of them and make more use of them than we do at present.

When we inquire how it is that so few early cases of phthisis are sent to sanatoriums, we find there are three principal reasons: (1) Want of early diagnosis; (2) lack of funds; and (3) unpopularity of sanatoriums. The first two of these are rather outside the scope of this paper, but may be briefly mentioned in passing.

1. With regard to the matter of diagnosis, one notices that cases are being "spotted" earlier than they were a few years ago, but one of the saddest features of sanatorium experience even now is that so many of the cases one meets have had their earlier symptoms misread. Recurring colds or "influenzas," significant wasting and cough, insidious loss of energy and spirits, have been passed over and ignored by both patient and medical man until it is too late. Even when suspicion is aroused and the medical man essays to decide whether tuberculosis is present or not, too often the early lesion is missed. The patient is assured that he is "only run down." He is given a tonic and allowed to go on living in the old way. Too late, then, is the trouble diagnosed; too late is the patient sent to a sanatorium; too late are money and devotion lavished on him by anxious friends, and these fate-fraught words, "too late," pursue him to the inevitable end, dog him until a merciful death ensues. Beyond doubt, however, the profession has been of late so powerfully stirred by the gravity of the situation that both by practitioners and by teachers of medicine far more attention is being paid to the methods of recognising the early stages of phthisis, and it may reasonably be expected that in a few years faulty and belated diagnosis will be almost a thing of the past.

2. As regards the lack of funds which debars so many from sanatorium treatment, it is to be hoped that insurance against invalidity will in the future furnish a means of overcoming this obstacle in a large proportion of cases. The German scheme of compulsory insurance for the working classes has been in operation since 1891, and has proved most successful. As soon as tuberculosis is detected in a German working man he is sent to a sanatorium for three months—or longer if necessary—at the expense of the insurance institution, and his wife and family are maintained during the absence of the bread-winner. Before many months are over it is possible that a somewhat similar scheme will be in operation in this country. In the case of the middle classes, voluntary insurance against invalidity is to be recommended as a wise investment. It eliminates to a great extent the difficulty and worry about financial matters which are so detrimental to the progress of patients, and enables many who could not otherwise afford it to have the benefit of sanatorium treatment in the event of their developing phthisis. That such voluntary insurance is practicable has been shown by extensive experience in Germany and in our own country by the success of associations such as the Post Office Sanatorium Society. This society has now been in existence for over four years. Its membership is over 40,000. Its membership fee is only 2*s.* per annum, and on this basis it provides sanatorium treatment when required for its members and maintains a sound financial position.

3. The unpopularity of sanatoriums, which we allege as the third reason why so few early cases find their way to these institutions, brings us to the main subject of this paper. One gratefully recognises that there are many efficient and admirable sanatoriums in the United Kingdom where the plague of tuberculosis is being fought with splendid skill, energy, and enthusiasm; but, on the other hand, one hears of too many where the methods employed go far to justify the aversion to sanatoriums which obtains in many quarters, not only among the general public but in the medical profession itself. We proceed, therefore, to a consideration of certain features of sanatorium life, with a view of seeing how this aversion has arisen and how it may be overcome.

The Medical Superintendent.

The primary fault may lie with the medical superintendent. Some are excellent fellows and charming companions, but do not trouble about keeping their knowledge up to date, and lack keenness of clinical interest in their patients. Others are led to the work along the line of least resistance by having weak lungs themselves and finding their posts "soft billets" with exceptional opportunities for the open-air life, golf, novels, and hobbies. It is true that a "fellow feeling makes us wondrous kind" and that some of the best sanatorium medical officers—some of the keenest, kindest, and most successful—have been, or are, themselves patients; but to the sanatorium physician, as well as to others, phthisis, especially if active, is a serious handicap and very apt to interfere with efficiency of work.

The ideal superintendent must, however, be more than a keen and vigorous physician. His relations with his patients are more intimate and his control over them more absolute than is the case with the ordinary practitioner. He supervises every detail of their lives, their rest and exercise, their work and play, their eating and drinking—even, to some extent, their intercourse and conversation. To wield such ample powers wisely and well, so as to promote not only the health but the happiness of patients, is by no means an easy task, and calls for a happy combination of geniality, tact, and discretion. Some men, of course, are "slackers" and leave the patients too much to their own devices. Others, more thorough, are harsh and despotic, and ride rough-shod over the susceptibilities of their patients, their cast-iron discipline proving unendurable to sensitive natures. Some tar all their patients with the same brush, lack the sense of the "personal equation," and fail in discriminative and individual treatment. Others are given to the worse fault of favouritism or allow favouritism on the part of their subordinates. In the institutions where this is the case, some patients are for ever in the lime-light, are waited on hand and foot and given every advantage of diet and comfort, while others, not so fortunate, are treated in a more or less perfunctory and off-hand manner. They are in receipt of what may be called the irreducible minimum of attention, while the extra touch of kindly sympathy—that touch which may make all the difference between happiness and depression—is systematically denied them. Preferential treatment of certain patients by the medical officer or staff encourages the formation of cliniques among the patients themselves, and as a result envy, hatred, malice, and all uncharitableness embitter the social life of the institution and interfere sadly with its usefulness. Such a state of matters is, however, the exception rather than the rule. It would be sad, indeed, were it otherwise, for sickness levels all, and a sanatorium is emphatically not the place for undue recognition of social distinctions.

Another of the many functions of the sanatorium physician

[1] A paper read before the Bournemouth Medical Society.

is that of teacher. Patients on arrival are frequently mystified as well as ill, and often lamentably ignorant of elementary hygienic and dietetic principles. In fact, through such ignorance they have in many cases contracted the disease. It then becomes the duty of the medical man to give such explanations and advice as will enable the patient intelligently to coöperate in carrying out the methods of treatment and prophylaxis, to realise the importance of rest hours and fresh air, the proper disposal of sputum, and the avoidance of re-infection. On the other hand, it is often necessary to check the tendency of morbidly introspective patients to spend their time in discussing symptoms, temperatures, and the like. Such patients are often unmitigated bores, both to the medical man and to their companions; while others cause harm to themselves and annoyance to their neighbours by noisy coughing and expectoration, and must be taught to perform these operations as quietly and unobtrusively as possible.

Lastly, the sanatorium superintendent must be a business man, and, while subordinating all other considerations to therapeutic efficiency, must see that strict economy is practised in all departments of the institution. No matter how able he may be in other ways, if he cannot make ends meet financially he is apt to find that his services are no longer required.

It will be seen that, although the duties of a sanatorium superintendent are frequently not hard, and the life is attractive in many ways, a certain temperament and many-sided aptitude for the work are essential to success, and in the absence of these even brilliant men are foredoomed to failure.

The Nursing Staff.

For first-stage or quite convalescent patients, whose temperature is normal, who are up at all meals and fit for a fair amount of exercise, little or no nursing is required; but where the disease is more advanced or active, adequate nursing and attention make up an important matter, and sometimes receive too little consideration. Many sanatoriums are, we fear, understaffed, with the result that patients who ought to be having complete rest must fetch and carry for themselves, or else remain in discomfort—suffering, it may be, from cold feet for want of a hot-water bottle, or sleepless and keeping others from sleep owing to a cough which a glass of hot milk would speedily allay. A night-nurse is of the greatest value in sanatoriums for attending to such simple requirements. This work may be safely entrusted to a senior probationer, and so entail little expense, while it will add greatly to the comfort of the patients, especially in winter. There are also many duties in sanatoriums for which a male attendant is most useful. He can see to the reclining chairs, rugs, cushions, and hot-water bottles of patients resting out of doors or in shelters—work which is decidedly arduous for women nurses. He can give blanket baths to male patients who require absolute rest, and assist those who are able to go to the bathroom, but are unfit for the exertion of washing and drying themselves. There is also a certain amount of valeting required, which a slightly febrile male patient is scarcely fit to do for himself and which he is not always willing to ask a much-worked nurse to do for him.

It may be that the relatively limited scope of nursing in sanatoriums often prevents the better type of woman-nurse—the nurse with a vocation—from entering these institutions. Where the standard of nursing is properly maintained, however, sanatorium work gives ample opportunity for high-class nursing, and sanatorium-trained nurses—women with a special keenness and intuition for the work—are a great desideratum to-day. The sanatorium nurse, like the medical officer, is largely responsible for the happiness as well as the health of her patients, and much depends on her tact, discretion, and freedom from undue partiality.

The Régime.

Nothing has contributed more to the unpopularity of sanatoriums than stories, doubtless often exaggerated, regarding the rigor of the treatment. Most of us have heard of patients lying on wet grass with rain pouring on them or having to rest in wet clothes after walking in the rain; of patients being stuffed with food until they vomited and then having to resume and finish their meals. Such outrages on common sense are, it is to be hoped, a thing of the past, but even now the word sanatorium conjures up to many disagreeable visions of chronic discomfort, forced feeding, and prison-like monotony, and patients evince the greatest horror of being sent to one. This is not as it should be, and pains must be taken not only to eradicate the prejudice but to eliminate from sanatorium treatment the unnecessary and inconsiderate rigor which has given rise to it.

With regard to the first essential of sanatorium treatment—fresh air—the great desideratum is that air once breathed shall never be re-breathed. An excellent and simple test of the ventilation of a room is to smoke a pipe or cigar in it. If the smoke and smell hang about the room it is evident that the air exhaled with the smoke is also hanging about and must be inhaled again and again as long as the smell of tobacco persists. In such a room the ventilation is defective. In the open air a smoker never re-inhales his smoke, and air once breathed is never re-breathed. This is the ideal to which sanatorium rooms and shelters should approximate as nearly as possible. To grant this, however, is not to justify the exposure of patients to 20-mile-an-hour gales in their bedrooms or elsewhere, or to claim that if they only live in fresh air all the time they need have no fear of damp sheets, draughts, or chills. Certainly the care taken in sanatoriums to minimise risks of infection and reinfection reduces the liability to injurious effects from cold or damp, and this liability may be further reduced by a judicious process of hardening, so that in time patients become able to bear with comfort and benefit an amount of exposure that would be trying to many healthy people. Yet it is a great mistake to suppose that when patients enter a sanatorium they are forthwith whisked on to magic ground, where they cannot possibly catch cold, and where they can do no hygienic wrong. A large proportion of sanatorium patients are already the subjects of mixed infection, and that, no doubt, is one reason why, even under the best conditions, undue exposure or chill is apt to be followed by an attack of pleurisy or pneumonia that may undo in a week the slow improvement of months and bring discredit on the system of treatment.

Next to fresh air, good feeding is one of the greatest essentials of treatment, but here also common sense must not be forgotten. In the matter of diet, as in that of exposure to weather, there is a popular fallacy that excesses, which outside the sanatorium would be vice or folly, inside the magic walls become the highest virtue. Without doubt, forced feeding has often been carried too far, and has been responsible for indigestion and even dilatation of the stomach, which have had the most prejudicial effects on the patient's progress and have made sanatorium life one long misery. No doubt instances are met with in which, although there is little or no appetite, food can nevertheless be assimilated with benefit to the digestive organs as well as to the lungs and body generally, and in such cases a certain amount of moral suasion is needed. In the great majority of cases, however, when patients live in the open air and have their rest and exercise suitably regulated, and the food supplied is wholesome and appetising, well cooked, and well served, appetite and inclination are the best guides, and forcing is absolutely unnecessary. At most a little encouragement to eat, or coaxing the appetite with more delicate or digestible food, or treatment of any digestive disorder that may be present, is all that is required.

Next to fresh air and good feeding, regulation of rest and exercise is, perhaps, the most important part of the sanatorium *régime*. A large amount of rest is essential. Doubtless the prospect of isolation in the country, with long rest hours spent in bed or in lounge chairs, is anything but attractive to many people who have been accustomed to the bustle, excitement, and late hours of town life, but any patient of intelligence must realise that "Back to Nature" is the first call that he must answer if he wishes to get well, and that rest is Nature's great restorer.

As regards exercise and amusements, practice differs greatly in different sanatoriums. In some walking is the only exercise allowed, but walking, even amid beautiful scenery, becomes monotonous unless varied with other forms of exercise. Graduated labour has proved of the greatest value in working-class sanatoriums, and gardening, poultry rearing, and other forms of work will probably before long become general in sanatoriums for the middle-classes as well, affording, as they do, pleasant and healthful and, at the same time, useful exercise. Such games as golf, croquet, bowls, and billiards are excellent for patients sufficiently advanced in convalescence, but the old-fashioned

croquet is apt to be too tedious, while lawn tennis is decidedly too violent. Music, singing, occasional amateur theatricals and the like (of course, in well-ventilated rooms or in the open air) are, if properly supervised, not only amusing but beneficial. Where such recreations are allowed the medical officer should exercise the closest personal supervision, as patients, when they get keen and excited, are often tempted to outdo their strength, and are consequently more likely to over-exert themselves in games or sport than in manual work. But while amusements are highly dangerous in excess, in moderation they have great therapeutic value and have their appropriate place in the sanatorium *régime*. Sanatoriums ought to inspire hope and cheer, not sorrow and tears; to attract patients, not repel them.

One objection to sanatoriums remains to be mentioned—viz., that the patient by entering one of these institutions becomes, as it were, branded as tuberculous and infectious, and may on this account be seriously handicapped in his social and business life. This objection is often a grave one at the present day, but will become less and less serious when cases are taken in hand earlier, when the percentage of satisfactory cures is consequently increased, and when more accurate views regarding the spread of infection become general. The truth is that a sanatorium treated patient has learnt how to avoid spreading infection, and, even if not cured, is, as a rule, no longer a source of danger to those about him. The really dangerous consumptives are those (often undiagnosed) who, having had no proper training, are careless about coughing, spitting, the use of handkerchiefs, and the like.

A Coördinated System Wanted.

In conclusion, a word may be said about sanatoriums in their relation to each other and to the national campaign against tuberculosis. In this country there is a conspicuous want of coördination and system in methods of treatment. Each sanatorium medical officer does that which is right in his own eyes, and a uniform and harmonious policy is sadly to seek. Even on such essential matters as diet, exercise, amusements, the use of tuberculin and vaccines, and the administration of antipyretics in febrile cases, great divergences of opinion and practice still obtain. To some extent this is the inevitable result of the rapid growth and change of our knowledge of tuberculosis and its treatment, and conflict of opinion is certainly preferable to stagnation; but the time is now ripe for more co-operation and coördination of all forces engaged in the campaign against tuberculosis, and in such a matter it is fitting that the State should take some initiative. We do not leave the defence of our country against external enemies to private enterprise and voluntary organisations; and the defence of our homes against such a national scourge as consumption is equally a matter calling for strenuous effort on the part of the State, a matter in which the State ought to hold itself responsible for organisation and supervision, for adequate assistance, and for ultimate success.

West Southbourne, near Bournemouth.

A CASE OF RECURRENT CARCINOMA OF THE PAROTID GLAND TREATED WITH COLEY'S FLUID.

BY E. R. HUNT, M.A., M.D., B.C. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a man aged 54, consulted me on June 29th, 1910. He had a large malignant growth in the right side of the neck, apparently originating in the right parotid gland. The history showed that 25 years ago he was operated on for a tumour in the neck. The tumour recurred 12 years ago and slowly became larger and more painful. In April, 1910, glands were removed by Dr. F. J. Paley at the Sussex County Hospital. These were closely connected with the parotid gland. It was considered impracticable to remove the whole growth. The report of a microscopical examination of the tissue removed stated: "This is a very fibrous carcinoma of scirrhous type. There is no trace of any glandular structure of any kind." Apart from this tumour the patient's health had been good. His teeth, however, were in a very bad state. Mr. Sampson Handley saw the patient for me, and suggested treatment by injections of Coley's fluid, combined with X rays. It was found impracticable, however, to carry out the X ray treatment at home.

Injections of Coley's fluid were given on June 28th and 29th subcutaneously over the right shoulder. The Coley's fluid used was obtained from the Lister Institute. On June 29th the patient left Brighton, and was absent until July 29th, during which time, unfortunately, only about four injections of Coley's fluid were given. He had one exposure to the X rays. On July 29th he again came under my care. The tumour was much larger, ulcerated, and the patient seemed much worse than when he left Brighton a month previously. Injections of Coley's fluid were recommenced, and given on alternate days, usually under the skin of the right pectoral region. The dose was gradually increased, and on August 5th 2 minims were given. At this time there was less bleeding from the surface of the tumour, otherwise there was little change. There was severe paroxysmal pain, and the pressure of the tumour was causing so much distress from pain and obstruction to respiration that the patient threatened suicide. The eleventh injection of the fluid (2 minims) on August 7th was quickly followed by a severe rigor lasting for about 20 minutes. The patient's pulse was very rapid and feeble, and he looked very ill. Brandy was given by the mouth and strychnine hypodermically, and he soon relapsed into his ordinary condition.

On August 9th the patient was feeling much better. He had had two good nights (a few doses of bromide and opium mixture had been taken). On August 10th a large part of the tumour came away in the dressings; smaller pieces came away subsequently. A large cavity was left, with sloughing necrotic base and edges, extending high up behind the angle of the jaw, and exuding a quantity of very foul discharge. From this date all urgent symptoms of distress were absent. The patient frequently expressed himself as being better. He complained of little or no pain except on August 13th, when he had some pain under the right ear, radiating upwards from a part of the tumour still remaining, and on August 22nd, when he had a severe attack of pain after going out for a drive. What pain was present was fairly easily controlled by occasional doses of the bromide and opium mixture. The cavity was frequently dressed, usually being mopped or syringed out with peroxide of hydrogen lotion and lightly plugged with gauze soaked in sanitas. The injections of Coley's fluid were continued on alternate days in gradually increasing doses until August 25th, when the final injection of 7 minims was given. In all the patient had some 19 injections. He gradually became weaker, ultimately passing into a semi-comatose condition. He died peacefully on August 27th. The temperature was never found to be higher than 101·8° F. (on August 19th), and was usually normal or subnormal in the mornings, though higher in the evenings. The pulse-rate varied from 88 to 114 per minute.

Remarks.—The following points are noteworthy:—1. The complete relief of pressure symptoms and the very marked relief of pain, which can only be attributed to the action of the Coley's fluid in causing the sloughing away of the greater part of the tumour. The comparative freedom from pain is attested by the very few doses of sedative mixture which were taken by the patient, although he was always provided with the medicine, and instructions were given that he should be allowed a dose whenever necessary. Although the injections were unsuccessful in effecting a cure, yet the relief afforded was very gratifying, and the patient's death was a comparatively peaceful and painless one, in place of the agony of slow suffocation which at one time seemed probable. 2. The low temperatures are interesting. In spite of steadily increased doses of the fluid, nothing like the reaction aimed at (103°) was obtained. 3. The case seems to show that in some cases of carcinoma Coley's fluid may have a marked action. It is, of course, in cases of sarcoma that the more successful results have been obtained.

I must thank Mr. Sampson Handley for his kind advice in the case, and Dr. Paley for permission to make use of the notes taken when the patient was under his care in the Sussex County Hospital.

Brighton.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Measles: its Treatment and Prevention.—Exhibition of Cases.—Election of Officers.

A MEETING of this section was held on May 26th, Dr. E. CAUTLEY, the President, being in the chair.

A discussion was held on Dr. R. MILNE'S paper on Measles: its Treatment and Prevention,[1] which had been adjourned from March 24th. In his paper Dr. Milne advocated the treatment by inunction of the body with eucalyptus oil and the local application of 1 in 10 carbolic oil to the throat, by which means he maintained that infection could be prevented.—Dr. J. D. ROLLESTON, in opening the discussion, challenged Dr. Milne's statement as to the dangers of hospital treatment, giving instances of the good results obtained in the Paris hospitals, where individual isolation was frequently practised. He thought that more convincing proof of the efficacy of the treatment proposed were needed, and asked for the rationale of the method advocated. As the contagion was chiefly spread by discharge from the nose and eyes, especially during the pre-eruptive period, it was difficult to understand what useful purpose could be served by mere inunction of the skin with eucalyptus oil and the application of carbolic oil, itself an antiseptic of very doubtful value, to the throat, even if the treatment could be carried out at home. Inunction of the skin, in Dr. Rolleston's opinion, was of very doubtful advantage in scarlet fever and of still less value in measles. Dr. Milne further claimed that his treatment rendered disinfection unnecessary, but in ordinary circumstances the process was not required unless the patient died from bronchopneumonia or some secondary infection. After further criticising Dr. Milne's statistics Dr. Rolleston concluded that the author had failed to substantiate the claims which he had set forth in his paper.—Dr. W. BEZLY THORNE upheld the use of eucalyptus oil, having found it very beneficial in his early days. It was, however, open to the objections that patients disliked it and that it irritated the skin. He therefore substituted an aqueous emulsion of carbolic acid, which he used for scarlet fever, measles, and varicella, and gave eucalyptus oil internally, with the result that his cases ran a benign course and all danger of infection was prevented.—Dr. J. BIERNACKI said that Dr. Milne did not appear to have sufficiently distinguished between scientific evidence and information which could not be called scientific. Scarlet fever varied greatly in the intensity of its infection in different districts at the same time and in the same district at different times. During a severe epidemic of measles he had tried Dr. Milne's method and found it a total failure. There had never been so many cases at the hospital as when the treatment was being carried out. Nevertheless, the fact that a treatment had been tried and failed was not a sufficient reason for refusing to try it, and he recommended that someone should try the method quite independently, working under the same conditions as Dr. Milne had.—Dr. T. R. WHIPHAM dealt with the question of the conveyance of measles infection by a third person, such as a nurse, and asked whether a nurse doing duty in a ward could be so saturated with eucalyptus oil that she would not convey measles to another patient. He inquired at what period should the treatment be carried out. Was one to assume that every case with indefinite symptoms was a potential case of the disease, or should one wait until the characteristic signs were evident? In the latter case what was to prevent the spread of the disease during the incubation period? While if every indefinite case was to be treated early, one would be continually living in an atmosphere of eucalyptus. No suggestion as to the rationale of Dr. Milne's method had yet been advanced, nor as to how the internal administration of eucalyptus, as recommended by Dr. Bezly Thorne, acted.—Dr. MILNE replied at considerable length. He had issued a free invitation to the members of the section and all interested to come and see his cases. After the use of the eucalyptus oil there was a decided odour of it in the urine. All the complications arose through secondary infections, but when the throat was treated early secondary infections never occurred. He was able to advance hundreds of testimonials in support of his position, and he would be glad to know how he could have done more than he had to have his system properly tested.—Dr. BEZLY THORNE, answering Dr. Whipham, said that he assumed the eucalyptus oil acted by destroying the bacilli, particularly when it was taken internally, but he could no more explain how the eucalyptus oil acted in these cases than how quinine acted in malaria.

[1] The paper was published in THE LANCET of April 22nd, 1911, p. 1070

The following cases were shown:—

The PRESIDENT: 1. Pyloric Hypertrophy and Spasm in a male infant, aged 10 weeks, who had weighed 6 lb. at birth. Fed on an artificial food he gained 1 lb. in the first week and then began to vomit. The vomiting became more severe and projectile in character, and the bowels were constipated. Feeding on whey, cream, and lactose had checked the vomiting and brought about an increase in weight, and the stools were normal. There was marked peristalsis of the stomach extending to the duodenum, and the pylorus was palpable but not much enlarged. The stomach was not dilated and it was thought justifiable to wait longer before advocating operation. 2. Cerebral Sclerosis and Idiocy in a girl aged 2 years and 4 months, with no history or evidence of syphilis. The child was stated to have been normal until 9 months of age, when she developed fits of opisthotonos and screaming. She was small and wasted and had never been able to sit up or talk. There were head retraction and opisthotonos with general rigidity and spasmodic movements of the limbs. The knee-jerks were exaggerated and Kernig's sign was present. The child was blind, but the eyes showed no abnormal features. The diagnosis lay between a sclerosis of post-natal origin, perhaps secondary to encephalitis, and cerebral palsy of the type known as cerebral spastic diplegia.

Mr. J. P. LOCKHART MUMMERY: 1. Fatty Tumour in the Abdominal Wall. 2. Severe Tuberculous Peritonitis cured by Laparotomy in a girl. When first seen the child was emaciated and anæmic and the abdomen was distended with fluid. General treatment causing no improvement laparotomy was performed, when the peritoneum was found to be covered with tubercles. As the result of the operation the child had got quite well, and there was now no evidence of tuberculous peritonitis.

Mr. SYDNEY STEPHENSON: Night-blindness with Peculiar Conjunctival Changes in a boy. The subjects of this condition usually suffered from insufficiency of food, and the amount of hæmoglobin in the blood was always below normal. The relation of the condition to snow-blindness and keratomalacia was discussed.

The cases were discussed by Dr. W. EWART, Dr. G. A. SUTHERLAND, Mr. LOCKHART MUMMERY, and the PRESIDENT.

The following officers were elected for 1911–12:—President: Dr. G. A. Sutherland. Vice-Presidents: Sir W. Watson Cheyne, Dr. H. D. Rolleston, and Mr. H. J. Stiles. Honorary Secretaries: Dr. T. R. Whipham, Mr. H. S. Clogg, and Dr. P. G. Lewis. Council: Mr. H. Burrows, Dr. H. J. Campbell, Dr. J. W. Carr, Dr. E. Cautley, Dr. E. J. Cave, Dr. A. E. Garrod, Dr. S. Gilford, Dr. G. S. Haynes, Dr. F. W. Higgs, Dr. G. B. Hollings, Mr. D. C. L. Fitzwilliams, Dr. F. Langmead, Dr. J. T. Leon, Mr. R. C. Lucas, Mr. W. J. Midelton, Mr. J. P. Lockhart Mummery, Mr. P. N. Blake Odgers, Dr. G. Pernet, Dr. J. D. Rolleston, Dr. E. Bellingham Smith, Dr. E. I. Spriggs, Mr. Sydney Stephenson, Mr. A. H. Tubby, and Dr. G. de B. Turtle. Representative on the library committee: Dr. J. Porter Parkinson. Representative on the editorial committee: Mr. H. S. Clogg.

BALNEOLOGICAL AND CLIMATOLOGICAL SECTION.

Calcareous Water in Health and Disease.

The annual provincial meeting of this section was held at the Town-hall, Folkestone, on May 27th, Dr. T. F. GARDNER, the President, being in the chair.

Dr. PERCY G. LEWIS (Folkestone) opened a discussion on the Influence of Calcareous Water in Health and Disease and said that drinking-water was an element of climate, and that at Folkestone it was hard owing to chalk in solution. Public opinion held that hard water was harmful, causing gout, rheumatism, calculus, constipation,

biliousness, dyspepsia, eczema, goitre, and arterio-sclerosis. In favour of the baneful influence of hard water, the condition known as seaside biliousness was said to be due to it. At a previous discussion of the section in 1907 it had been decided that climate had more effect in producing this condition than water. Gouty people at the seaside mostly acquired their gout before residing at the sea. Weber had said that calcareous water seemed to lessen the output of uric acid, but might be of use in diseases due to deficient coagulability of the blood. Rumph inclined to the view that chalky water might increase the calcification of arteries in the aged, but Sir Clifford Allbutt maintained that calcification was protective. The Commission on the Water-supply of London had reported that in the form of carbonates lime salts did no harm, but that the sulphates of lime and magnesia were apt to derange digestion. Materia medica books stated that very little lime was absorbed from medicinal doses, therefore only a negligible amount could be got from water. Hard water from the main would be of no use in conditions in which calcium salts were urgently wanted, as in capillary hæmorrhages, urticaria, pruritus, &c. Hard water had no effect on functional uterine disorders, menorrhagia and amenorrhœa being equally common at the seaside. Goitre had nothing to do with hard water, but was generally supposed to be caused by drinking "melted snow" water. On the skin hard water was desiccative and astringent. Parkes said that it was bad for horses in that it spoilt their coats. Calcium salts had been accused of acting indirectly, and the experiments *in vitro* of Dr. W. G. Little seemed to support this view. He had found that the addition of small percentages of sodium chloride and of calcium salts reduced the solubility of sodium biurate to almost zero. Thus he explained the composition of tophi. But as lime and common salt were always present in the food of everyone, this *in vitro* experiment could have no application to the human organism. Against the view of its baneful influence Parkes in his Hygiene stated that chalky drinking water did no harm to man. As four-fifths of the earth's surface were provided with hard water, it could not have an appreciable bad effect. The mortality of towns supplied with hard water was rather less than those with soft. Most of the mineral waters used for the conditions which hard water was said to cause contained large quantities of calcareous matter. So if there were anything in the view of its noxiousness, all mineral water treatment would have to be given up. He pointed out that the upper and middle classes, who suffered from these alleged diseases as much as the lower, drank mostly bottled soft water. With reference to calculus, the late Sir B. W. Richardson had declared that hard water had no effect in this disease, and this view was supported by Weber. Recently Dr. Benjamin Moore had advocated calcium starvation for oxalurics, but Dr. Johnston Lavis had shown this to be unscientific and ineffective. The late Sir J. Simon had maintained that the prevalence of stone in Norfolk was not due to the water but to the attraction of an eminent lithotomist. The fact that so large a number of people drank chalky water would ere now, if harm had resulted, have placed the matter beyond discussion. On the contrary, calcium salts had a good effect. The withholding of them had been stated to predispose to typhoid fever. Hard drinking-water was very good for children. Birds were notorious calcium-eaters, and hens only suffered when Dr. Chalmers Watson interfered with their diet. In explanation of the alleged baneful effects, he suggested that the origin of the fallacy in connexion with chalky water was to be traced, first, to the public idea that tophi were composed of chalk, and secondly to the occurrence of dyspeptic disorders in people when first visiting the sea. The hypothesis in the first case was, of course, absurd, and the phenomenon observed in the second case was due to change of habits and stimulation of the appetite. Both caused the balance of intake and excretion to be upset and led to the blood being overcharged with auto-intoxicative material. This occurred as much in those who drank the hard water as in those who did not.

Dr. G. PERNET considered that calcareous water taken internally was not productive of eczema. He had seen a very large number of cases of eczema and they came from many places with water-supplies of various kinds. As to the local effects of calcareous and hard water on eczema there was no doubt that they were bad. Again, the local use of calcareous and hard water might in some skins lead to an eczematous-looking dermatitis. He was of opinion that at the seaside climatic conditions were important in producing eczema. On the other hand, he had seen cases of eczema benefited by a sojourn at the seaside, but this was certainly not the rule.

Dr. F. BAGSHAWE (St. Leonards-on-Sea) wished to inquire as to the composition of Folkestone water. Was the hardness due to calcium carbonate alone or to sulphates or other mineral coming from the strata below the chalk? Calculus was found by long hospital experience to be infrequent at Hastings, in striking contrast to that at Cambridge, where the museum contained an enormous number of stones, in accord with the hospital experience. Here the water was from beneath the chalk. There were no chalk or carboniferous rocks within ten miles of Hastings, and the water was not hard except from the presence of an irregular quantity of iron dealt with by magnetic filtration. He believed that the tendency to constipation among newcomers was common to all seaside places, and was probably due to the fresh surroundings and mode of life.

Dr. W. J. TYSON (Folkestone) said that whether the title of the paper was chosen by design or arose by accident the result was a happy one, as Folkestone was well supplied with hard water. He thought that there was little doubt that such troubles as mild chronic rheumatism, certain skin diseases, biliousness, and perhaps the anæmia of young people were more common at the seaside than elsewhere, but this seemed to him to be due not to the presence of hard water but to the climate, for the hard water found in inland towns did not appear to be a factor in the causation of the aforementioned diseases. From an economic and cosmetic point of view soft water was preferable to hard, for the latter often caused considerable expense to the householder from the furring of pipes, &c., and for washing purposes more soap was required.

Dr. S. D. CLIPPINGDALE recited his study of the Chiltern Hills, where he had found that the process used for softening water, while it had diminished the tendency to calculus, had increased the tendency to goitre.

Dr. LENNOX WAINWRIGHT (Folkestone) maintained that there were three factors to be considered in dealing with the question—viz., the diathesis of the individual, the climatic conditions, and the nature of the water-supply. Many people came to Folkestone after leading strenuous lives in the East and elsewhere, and were in a pathological condition of health. Such patients required individual treatment in the matter of water, just as much as in the matter of diet. Hard water had the advantage that it was free from contamination, whilst distilled and softened waters were almost impossible in town supplies. Chalk might be removed but lead and disease might then be carried. Constipation was common in sailors who drank condensed water, and it could not in this case be ascribed to chalky water.

Dr. LEONARD WILLIAMS was of opinion that the alleged injurious influence of calcium salts in drinking water could not bear examination. In the formation of calculi it was the acids, oxalic and uric, which were really responsible, and not the calcium base. It was impossible to get rid of all the calcium even if one wanted to. The patient would die from osteomalacia. The consideration of osteomalacia and rickets showed clearly that the question was more one of the activity of the internal secretory glands, the ovaries, the thyroid, and others.

Dr. C. BATEMAN said that Folkestone water was derived from deep wells in the chalk, and that on analysis he had found its composition (expressed in grains per gallon) to be as follows:—

Chlorides	1·39
Nitrogen in nitrates and nitrites	0·25
Free ammonia	Trace only
Albuminoid	0·0008
Oxygen absorbed in 15 minutes	Trace only
,, ,, in 4 hours	0·022
Hardness (total)	13·7
,, (permanent)	2·9
Total solid	23·66

He pointed out that the amount of chalk taken in 1 pint of water would be about 2½–3 grs. when drunk unboiled. If boiled the amount would be about ½ gr., which was not sufficient to be considered deleterious in any way.

Dr. A. F. STREET (Westgate-on-Sea) said that he agreed with the views so clearly expressed by Dr. Lewis. He maintained that if chalk-containing water could cause the effects sometimes attributed to it, those effects could hardly fail to be notorious; and that physicians who had practised for many

years among populations using water drawn from wells in the chalk could not fail to be familiar with them. It was almost impossible to believe that such evil effects could occur and yet remain unknown to them. Surely the weight of evidence had proved that this was not so. Where a prejudice against the use of chalk-borne water existed he believed it to be due either to common lay error that the so-called "chalk-stones" contained chalk, or to the ill-founded medical presumption that gout or rheumatism, or both, must be prejudicially influenced thereby.

LARYNGOLOGICAL SECTION.

Annual and Ordinary Meetings.

An extra-metropolitan meeting of this section was held on Friday, June 2nd, at the University of Bristol, Dr. P. WATSON-WILLIAMS, the President, being in the chair.

The proceedings commenced with the annual general meeting.

A report of the Council for the past session was read, but on the list of officers proposed by the Council being brought forward, it was proposed by Sir FELIX SEMON, and seconded by Dr. WILLIAM HILL, that a special general meeting be called to consider the matter at a date to be fixed by the Council. This was carried.

The PRESIDENT moved that in future no one shall hold the office of President two years in succession. This was seconded by Mr. HUNTER TOD and carried.

There was also a presentation of an illuminated address to Sir FELIX SEMON, who, in returning thanks, stated that the Semon Lectureship in Laryngology at the London University had now been settled.

The annual meeting was followed by an ordinary meeting, when demonstrations were given in Bronchoscopy and Œsophago-gastroscopy by the PRESIDENT, Dr. N. S. FINZI, Dr. WILLIAM HILL, Dr. G. HERSCHELL, and Mr. A. J. M. WRIGHT.

The PRESIDENT also showed some cases of Epithelioma of the Larynx, Malignant Disease of the Œsophagus, and patients illustrating results of his osteoplastic radical frontal sinus operations. These were discussed by Dr. G. C. CATHCART, Mr. HERBERT TILLEY, and Dr. STCLAIR THOMSON.

Mr. TILLEY showed Foreign Bodies Removed by Direct Bronchoscopy and Œsophagoscopy, with skiagrams relating to these and the nasal accessory sinuses.

A discussion afterwards took place on the Relationship of Diseases of the Nose and Accessory Sinuses to Affections of the Eye and the Orbit. This was opened by Dr. STCLAIR THOMSON and Mr. F. RICHARDSON CROSS; Dr. G. F. C. WALLIS and Dr. D. MATHESON MACKAY joined in the discussion.

The members were afterwards hospitably entertained by the President and Mrs. Watson-Williams at dinner and at a reception at the Grand Spa, and also by Mr. W. S. V. Stock; and on Saturday at Bath by the Mayor, Mr. T. Pagan Lowe, and other gentlemen.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

Exhibition of Cases and Specimens.

THE second meeting of this society was held in the Western Infirmary, Glasgow, on May 20th, under the chairmanship of Dr. THOMAS BARR.

Dr. BARR showed a patient who, 24 years ago, came under his care suffering from Otitic Temporosphenoidal Abscess. Sir William Macewen operated. It was fully reported in THE LANCET of March 20th, 1887, and is of historic interest as being one of the first of its kind operated on, Barker's and Caird's cases preceding it by only two or three months.

Dr. J. WALKER DOWNIE showed a man from whom he had removed a large Subglottic Papilloma by thyrotomy. This method was adopted in preference to the direct because of the foul appearance of the growth and because of loss of movement of the cord. The larynx was immediately closed. At the present time the cord moves well, but it is still congested, and in spite of the pathologist's report, "simple warty papilloma," Dr. A. LOGAN TURNER voiced the opinion of other members in considering it a case which should be carefully watched for signs of malignancy.

Dr. DOWNIE reported a case of Bilateral Abductor Paralysis of the cords in which it was found necessary to perform tracheotomy to prevent suffocation. A most careful examination failed to disclose the cause of the paralysis.—With reference to Semon's law, Dr. J. S. FRASER inquired if any member had ever watched a case in which abductor paralysis had gone on to complete paralysis, leaving the cord in the cadaveric position. Only one member, Dr. Downie, was able to report such a case. This man, a singer, was under the care of the late Dr. Finlayson for a lengthened period. At first he was found to be suffering from unilateral abductor paralysis. He could sing quite well, and, indeed, made his living in that way. Later, however, he lost his voice, and on examination the cord was then seen to be lying in the cadaveric position.

Dr. DOWNIE also showed: 1. A patient nine years after the injection of molten paraffin to remedy Deformity of the Nose. The paraffin remains inert, does not tend to migrate or to become absorbed, and the improvement effected is permanent. 2. A patient from whom a large Naso-pharyngeal Fibroma had been removed by the écraseur through the nose. 3. A woman with a congenitally Short Palate. Speech is defective, but deglutition is unimpaired. 4. A patient operated on on several occasions, the last being 15 months ago, by intranasal methods for Sarcoma of the Ethmoid.

Dr. J. STODDART BARR reported a fatal case of Cerebellar Abscess, and also showed a patient successfully operated on for the same condition, both the result of chronic middle-ear suppuration. In the fatal case the abscess was associated with infective panlabyrinthitis and with septic thrombosis of the lateral sinus; indeed, there was an opening in the sinus wall leading into the abscess cavity. Operation was carried out on the labyrinth, the cerebellum, the sinus, and the internal jugular vein, but death occurred from purulent leptomeningitis. In the other case there was no labyrinthine involvement. There was, however, a subdural collection of pus which was at first dealt with. Later the cerebellar abscess was discovered and drained. From this mixed staphylococci grew on culture and a vaccine was prepared and used in increasing doses every eight days. Uninterrupted recovery resulted.

Dr. STODDART BARR also showed a patient on whom he had operated by intranasal methods two years ago for Carcinoma involving the Left Ethmoidal Region.

Dr. JAMES ADAM showed: 1. Two patients, a man and a woman, in whom an Atrophic Rhinitis had commenced in adult life. The latter of these patients had been under his care for another condition for some years, and he was therefore able from his own observations to confirm the history. 2. A patient who had suffered from Chronic Œdema of the Face associated with Maxillary Antral Disease and Extensive Dental Caries. Attention to these conditions combined with vaccine treatment resulted in great improvement. 3. A girl in whom the radical mastoid operation for Chronic Middle-ear Suppuration was followed by greatly improved hearing. 4. A patient operated on for Polypi arising from the Inferior Turbinal.

Dr. A. BROWN KELLY showed a woman, aged 21, suffering from Syringobulbia with Implication of the Nose, Pharynx, and Larynx. When she first came under observation she complained of hoarseness, intermittent for several years and constant for 14 months, and loss of power in the right arm. She had occasionally burnt her right hand without being aware of it till blistering had taken place. At the present time her condition is as follows: there is anæsthesia of the lining membrane of the right nasal fossa except above the posterior end of the middle turbinate, of the right half of the soft and hard palate, of the right half of the posterior pharyngeal wall, and of the right half of the larynx. The left half of these parts is only very slightly affected. Both conjunctivæ are insensitive. There is loss of abduction of the cords and adduction is incomplete. The palate is drawn up to the left on phonation, but does not reach the posterior pharyngeal wall. There is atrophy of the right half of the tongue, which, however, is normally protruded. The right masseter is paralysed. Other points are: nystagmus on lateral and upward movement of the eyes, knee-jerks normal, tactile sensation absent over right side of neck and lower jaw, and down over shoulder to level of nipple, over right arm except on inner side from axilla to elbow; it is blunted and delayed on left leg. Pain is diminished on both sides of face and scalp, especially on right side, on arms and legs, and on trunk above nipples. The appreciation of heat and cold is doubtful on upper part of trunk, and on face, arms, and neck it is perverted.

Dr. KELLY also showed a boy, aged 13, suffering from

Myasthenia Gravis, with impaired speech. This was first noticed a year ago and lately it had become much worse. On phonation the palate was only slightly raised, but it responded completely to probing. The tongue was protruded perfectly. His speech resembled that of a person partially intoxicated, and the defect appeared to be in the muscles of articulation. There was no rhinolalia aperta and no regurgitation by the nose during deglutition. On electrical stimulation the muscles around the mouth gave the myasthenic reaction, but those of the palate did not. Dr. Kelly wished to acknowledge the kind coöperation of Dr. John Love in these two cases. In connexion with the boy Dr. Turner drew attention to his age, remarking that it was probably one of the youngest cases of the kind reported.

Dr. J. KERR LOVE showed a girl, 8 years of age, on whom he had operated for Lateral Sinus Thrombosis secondary to chronic middle-ear suppuration. The sinus was occupied by septic clot from the jugular bulb almost to the torcular. The internal jugular vein was tied and the sinus evacuated, and the child made a steady though slow recovery.

Dr. J. GALBRAITH CONNAL showed a somewhat similar case. In this patient, however, the sinus complication was secondary to acute middle-ear suppuration which was present on both sides, so that it was somewhat difficult at first to decide which lateral sinus had become involved. More definite signs later pointed to the left sinus, which was found grey and sloughy in appearance and to be thrombosed in the region of the bulb. It was dealt with, and two days later the jugular was tied and divided. Three weeks later it was found necessary to open the mastoid cells on the right side. The patient made a good recovery, with normal hearing on both sides.

Dr. CONNAL also showed a patient from whose right External Auditory Meatus he had removed a large Exostosis which completely blocked the channel. It was then seen that the patient had a chronic middle-ear suppuration of which he had been unaware, the tympanum being filled with foul-smelling cheesy material. Later the radical mastoid procedure was carried out. With reference to the causation of these growths Dr. Connal remarked that a history of frequent and inordinate bathing could usually be elicited. (This patient lived by the sea and bathed as many as six times a day during the summer months.) They were more often found unassociated with middle-ear suppuration.

Dr. R. FULLERTON showed a girl on whom he had performed Killian's Operation for Frontal Sinus Disease. It appeared that the intersinusal septum was destroyed, but no opening could be found leading from what seemed to be the left sinus into the nose. Probably the true state of matters was that the right sinus encroached to an unusual extent on the left, which was so small as to be almost non-existent.—Other patients operated on for frontal sinus disease were shown by Dr. DOWNIE, Dr. J. STODDART BARR, and Dr. W. S. SYME.

Dr. SYME showed a patient, a woman, with Anæsthesia of the Palate, Pharynx, and Larynx and Paresis of the Palate. When first seen four months ago the anæsthesia of the palate, pharynx, and root of the tongue was fairly well marked. This had improved, but the larynx remained decidedly anæsthetic. Occasionally she had regurgitation of fluids through the nose and sometimes particles of food passed into the windpipe. Vertigo, with tendency to fall to the left, had lately developed and her sight had deteriorated. There was optic neuritis. No history of syphilis could be elicited. The knee-jerks were much exaggerated. There was nystagmus towards the right, increased on deviation to that side, but absent on deviation to the left. The ears and the hearing were practically normal. The caloric reactions were interesting. Cold water in the left ear quickly produced a very marked coarse nystagmus towards the right, with severe vertigo and tendency to fall to the left. With the right ear the reaction was much less marked and practically no sense of vertigo was caused. The patient had also been seen by Dr. R Stockman and a provisional diagnosis of cerebellar tumour had been made.

Dr. SYME also showed a man on whom he had performed an External Operation, together with Obliteration of the Frontal Sinuses for Extensive Sarcoma of the Nose.

There was an interesting exhibition of pathological specimens, skulls, photographs, &c., by several members.

THE NEW LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held on June 8th, Dr. P. S. Abraham, the President, being in the chair. The following cases were shown:—Dr. G. Norman Meachen: 1. For the President, a man, aged 29, with Lupus Erythematosus of the face and dorsal surface of the fingers of five months' duration. 2. A young woman, aged 21, with a similar condition affecting the dorsal aspect of the phalanges only, of nine months' duration. 3. Pseudo-pelade of Brocq, in a man of 31, in whom the condition had lasted for 12 years. The side of the face was also affected. 4. Sycosiform Syphilide in a man, aged 38, who also showed, in addition to the frambœsial lesions upon the face and neck, some keratotic patches upon the palms.—Dr. W. Knowsley Sibley: A woman with Dermatitis Herpetiformis of 15 years' duration; some improvement ensued after the injection of an autogenous vaccine (streptococcus).—Dr. J. D. P. McLatchie: Pityriasis Rosea in a boy aged 14.—Dr. Tom Robinson: A woman with extensive Lupus Erythematosus of the Scalp and Face, of 30 years' duration.—Mr. Dennis Vinrace: Case of Urticaria in a child with frequent relapses.

Reviews and Notices of Books.

Yellow Fever and its Prevention: A Manual for Medical Students and Practitioners. By Sir RUBERT W. BOYCE, M.B. Lond., F.R.S., Holt Professor of Pathology, University of Liverpool; Dean of the Liverpool School of Tropical Medicine. London: John Murray. 1911. Pp. 380, with 61 illustrations and maps. Price 10*s.* 6*d.* net.

THIS book, which is dedicated to the late Sir Alfred Lewis Jones, a principal founder of the Liverpool School of Tropical Medicine, contains a summary of the author's experiences and investigations of yellow fever in New Orleans, British Honduras, Central America, Barbados, and British Guiana, as well as in the West African colonies of Sierra Leone, Gold Coast, and Southern Nigeria, in the period from 1905 to 1910. The subject of yellow fever is treated by Sir Rubert Boyce from various points of view, including the history and geographical distribution of the disease, its symptomatology and treatment, its pathology, diagnosis, epidemiology, entomology, and prophylaxis. Special stress is placed upon the vexed question as to whether yellow fever is or is not endemic in West Africa. The author believes that if the existence of the disease is fully recognised and the simple measures which he advocates are followed, "the conquest of West Africa will be free from the ghastly set-backs which the pioneers of Central and South America and the West Indies experienced during the many years in which they were engaged in building up commerce and civilisation." Sir Rubert Boyce believes that probably no disease has been mistaken for so many other diseases, and that in West Africa yellow fever has commonly been overlooked, purposely or otherwise. He states that he can come to no other conclusion than that a very large proportion of the remittent and bilious remittent fevers of West Africa are in reality mild forms of yellow fever. The African native, in the author's opinion, is as saturated with yellow fever as he is with malaria, and his escape from the severe manifestations of the former malady and also the very frequent occurrence of the disease among the white population, more especially among new comers, are regarded as proofs of this contention. The West African natives in effect act as a reservoir of the virus of yellow fever; in childhood they suffer from the disease in a mild or modified form, and thus acquire immunity from the infection in later life. The stegomyia, which abounds at most West African coast towns as well as in many in the interior, has no difficulty in obtaining a supply of the virus from

native sources, and is easily able to transmit it to Europeans on their arrival.

Though probably there is much that is true in the arguments set out by Sir Rubert Boyce in his book, further investigation appears to be needed before his contentions can be unreservedly accepted. His charges against the profession in West Africa of having habitually made grave errors in diagnosis throughout a long series of years, or of having failed to report cases of true yellow fever for fear of incurring the displeasure of the administrative officers or of the commercial community, seem to us to be too sweeping and therefore open to objection. All authorities are agreed as to the difficulties arising in the diagnosis of the milder forms of the disease. In some countries nothing is admitted to be yellow fever unless black vomit is present; but, on the other hand, there is substantial ground for believing that some of the anomalous fevers of a mild kind met with in certain tropical countries are really manifestations of undoubted yellow fever. These disputed points will no doubt be cleared up when the specific microbe of the disease has been identified, or when some serum reaction such as we possess for enteric fever has been discovered.

Apart from the contentious matter, this volume gives a very good description of the malady and the means to be employed for its prevention; it will be of considerable service to those who seek for instruction concerning yellow fever. In describing the post-mortem appearances met with in fatal cases the author speaks of "boxwood liver," a term which, we confess, is new to us; we find, on looking into the matter, that it refers to a particular shade of yellow which is said to describe most accurately the altered colour of the liver in fatal yellow fever. The book is written in a popular style, and being freely illustrated secures at once the attention of the reader.

Hospital Management: A Handbook for Hospital Trustees, Superintendents, Training School Principals, Physicians, and all who are Actively Engaged in Promoting Hospital Work. Edited by CHARLOTTE A. AIKENS, formerly Superintendent of Columbia Hospital, Pittsburg, &c. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 488. Price 13s. net.

THIS manual consists of a series of chapters, contributed by 21 writers, on the various departments of hospital administration. The duties and responsibilities of the board of managers and of the superintending head, the general principles of the organisation of the medical service, the furnishing and equipment, and the management of income and trust funds are described. Then the different departments are dealt with in order, including the stores, kitchen, engineering department, laundry, surgery, out-patient department, and laboratory. The management of the training school for nurses is dealt with in some detail by the editor.

In the introductory chapter by Dr. Charles P. Emerson, entitled "The American Hospital Field," we are given a fairly comprehensive outline of the whole subject. Dr. Emerson points out the difference between the American and European hospitals; the former "are not hindered in their present development by their historic evolution." In Europe most hospitals have been established for the benefit of the poor, and their inmates are still mostly drawn from the indigent classes; but in America there has never been the same association in the popular mind between poverty and hospitals in general: they are supposed to provide suitable accommodation for the pauper and for the millionaire. There is a growing belief that the hospital is, or should be, a better place for a sick man than his own house, however luxurious that may be. Moreover, in America the erection and endowment of hospitals are considered to be rather the duty of private citizens than of the Government or of ecclesiastical bodies. Their number is rapidly increasing; of a total of 5034 medical institutions throughout the United States, 40·7 per cent. have been established within the last decade. With regard to the question of small *versus* large hospitals, Dr. Emerson considers that there are advantages in having several hospitals of the same type in one city, rather than a few large institutions. But there should be a real need for the total number of beds provided by the several small hospitals; each of these should contain a sufficient number to make economic maintenance possible, and should be well enough endowed to be able to do efficient work; and all the hospitals should work together in harmony, so as to prevent unnecessary duplication. Dr. Emerson has studied this problem in Europe as well as in America, and he believes that the ideal number of beds is something between 400 and 600, though good management would permit of a considerable increase in this number. A hospital for 200, or even 100, patients requires practically the same installation as does one for 400; yet in the United States only 1 per cent. of the general hospitals have 400 or more beds. His conclusion is that most general hospitals for acute cases in large cities are too small, which probably means too poor; and that the hospitals in smaller cities and towns had better not try to appear quite so "complete." He refers to the recent development of the "social service department," the work now being carried on at some of our great medical charities by a system of almoners, as affording great promise of good, especially with regard to out-patients; their physical ills and troubles are, perhaps, not so important as the social conditions under which the patient lives and works, and his family problems.

In the succeeding chapters full information is given on the subjects treated of, and entirely from the practical standpoint, while there are numerous illustrations and plans. The chapter by the editor on the training school for nurses and its management is especially valuable. As to night duty, we are told that no satisfactory plan has been devised for making the hours less than 12, but there should be no difficulty in this, as "the terms of night duty are relatively short—a month or six weeks being the rule." This is not the rule in this country, and it would be well, in our opinion, if hospital authorities in this country could limit periods of night duty to such a time as is here indicated; with us the terms of night duty may extend to six months or longer.

The volume is full of information and will be of great use to all who are interested in hospital administration.

Technique du Diagnostic par la Méthode de Déviation du Complément. (*The Technique of Diagnosis by the Method of Deviation of Complement.*) Par P. F. ARMAND-DELILLE. Paris: Masson and Co. 1911. Pp. 200. Price 5 francs.

THE phenomenon of deviation of complement described and studied by Bordet and Gengou has proved to be of such great practical value in the diagnosis of disease that it now forms part of the everyday routine of work in bacteriological laboratories. Its application by Wassermann, Neisser, and Bruck to the diagnosis of syphilis has, perhaps, served to distract attention from its usefulness in other directions, just as the practical application of the agglutinin reaction to the diagnosis of enteric fever by Widal for a time overshadowed the more general application of that reaction. It must be recognised that the technique of the Bordet-Gengou reaction is somewhat complex, and that it involves the careful preparation and titration of a number of essential reagents—viz.; the antigen, red corpuscles, complement, and a hæmolytic serum. Dr. Armand-Delille in the book before us has supplied in readable form a detailed

account of the principles of the method, its application to the diagnosis of various diseases, and also valuable instructions for the preparation and preservation of the essential materials for the reaction. In a matter of this kind the technique is of the utmost importance, and must modify profoundly the reliability of the results obtained. Full descriptions and clear illustrations are given of all essential points in regard to the reaction. Wassermann's tests and its many modifications are separately and carefully described. This book should be of real value in bacteriological laboratories.

Yellow Fever. Being a Compilation of Various Publications showing the Results of the Work of Major Walter Reed, Medical Corps, United States Army, and the Yellow Fever Commission. Washington: The Government Printing Office. 1911. Pp. 250. With 5 photographs, 27 charts, and 7 illustrations in the text.

THIS very valuable volume has been issued in compliance with a resolution of the United States Senate, dated Feb. 11th, 1911, by which 1000 copies of the work were ordered to be printed at the public cost. As no price is given, we presume that the volume is being distributed to medical schools and libraries in America and Europe and in official circles. But it is, in our opinion, to be regretted that so useful a book is not on sale and that comparatively so few copies have been printed, for it will not be as easily accessible as it should be. The preface states that the results of the work of the late Major Reed and of his colleagues on the Yellow Fever Commission—namely Assistant-Surgeon James Carroll, Dr. J. W. Lazear, who unhappily fell a martyr to science in the course of the experiments, and Dr. A. Agramonte—have been so beneficial and so far-reaching that their importance is considered to be "secondary to no other scientific achievement." Many, if not all, of the papers included in the volume have been previously issued at one or another time as separate publications, but there is very great convenience in having them now bound up together. In this form they are more easy of reference, and as they are now published in chronological order they are not only of much scientific value but also of some historical interest. It is felt in America that the value of Reed's work and that of his co-workers has not received so much recognition as it deserved. Many of the younger members of the medical profession, too, are not so thoroughly conversant as they should be with the various steps of the work of yellow fever investigation carried out by Reed and his colleagues, which established on a scientific basis that the disease is transmitted by a mosquito and not by personal infection or fomites as had been hitherto believed.

The book is divided into five parts, the first of which is devoted to a Memoir of Major Reed and a description of his work, together with an account of the appreciation which his results and those of his fellow commissioners obtained. Part II. reproduces the scientific papers issued by the Yellow Fever Commission, over which Major Reed presided, from 1899 to 1902; and Part III. contains certain publications of Assistant Surgeon Carroll in regard to yellow fever, issued after Major Reed's death. In Part IV. are given reports from sanitary officers in Habana demonstrating the practical value of the findings of the Yellow Fever Commission; and in Part V. are reproduced some general directions, published originally in 1904, by Colonel William C. Gorgas, Medical Corps, United States Army, as to the steps to be taken for the destruction of mosquitoes, particularly the stegomyia calopus. The volume throughout is extremely interesting, and some of the details of Major Reed's early career are indeed surprising to English readers. It was, for example, a somewhat astounding feat for him to obtain the degree of M.D. of the University of Virginia in 1869, after only nine months' study and before he was 18 years of age. He also graduated at the Bellevue Medical College, New York City, a few months later after one more session of study. Before he reached the age of 21 he had been appointed one of the five medical inspectors of the Board of Health of Brooklyn City, an appointment much sought after by ambitious young medical men. These and other incidents in his career before he joined the Medical Corps of the United States army were indications of the high courage and great ability of the man. Of the four members of the memorable Yellow Fever Commission, only one survives—namely, Dr. A. Agramonte, now Professor of Bacteriology and Experimental Pathology in the University of Habana. As we have said, we fear the number of copies of this useful book, printed at the public cost, is far too few, and the number for distribution or on sale might well have been 10,000 instead of 1000. We infer that medical science in America, as sometimes happens at home, is handicapped by the inadequate pecuniary support doled out to it with a somewhat niggardly hand.

Recherches Expérimentales sur les Tumeurs Malignes. Par JEAN CLUNET. Paris: G. Steinheil. Pp. 336. Price 8 francs.

THE observations recorded in this volume have been carried out mainly in the laboratory of pathological anatomy of the Faculty of Medicine, Paris, and to some extent under the direction of Professor Pierre Marie. They fall into two categories: (1) experimental studies on cancer in mice; and (2) the effects of X rays upon normal tissues and upon carcinoma and sarcoma.

The experimental studies have been undertaken on the basis of a number of tumours described by the author and on three tumour strains obtained from Ehrlich, under whose direction Dr. Clunet appears to have worked for some time. It is therefore not surprising that the author does little more than repeat certain experiments and confirm conclusions already advanced by his distinguished master, although the absence of independent thought and investigation is to be deplored. This criticism applies more particularly to experiments directed to ascertaining why metastases were not found in the course of the growth of the mouse tumours transplanted, and to others confirming Ehrlich's views on the existence of atreptic immunity, where an established tumour is asserted to withdraw food so rapidly that metastases and secondary inoculations (artificial metastases) cannot establish themselves. No mention is made of the importance of the influence of dose and of other controllable factors which have been demonstrated to influence the results of secondary inoculations in animals already bearing tumours, nor does the author make any attempt to discuss the literature on the subject. A case of sarcoma developing during the propagation of a carcinoma is described. The primary tumour was carefully examined and is pronounced to have been a pure carcinoma and to have retained this character till the third subtransplantation, when the stroma rapidly became sarcomatous, and during further propagation only spindle-cell sarcoma has been obtained. The carcinomatous element has not been maintained in propagation. This is unfortunate, since the sarcoma developed without its evolution being carefully followed, and so there is lost the opportunity for contributing to the solution of the problem involved in the experimental production of sarcoma under the conditions obtaining during the propagation of carcinoma in mice.

These experimental studies will have interest for all engaged in the investigation of cancer, more particularly because of the lucid manner in which the author presents his facts and

conclusions. The study of the effects of X rays is very careful and interesting, the destructive and hyperplastic effects on various tissues being described. The most striking result obtained is the development of what is described as a spindle-cell sarcoma on the rump of a rat whose tail had ulcerated off in consequence of the repeated action of X rays. The tumour was transplanted with negative results. The volume is well illustrated and provided with an analysis of the contents more full than is often found in French books, and notwithstanding the limitations made above, is a valuable contribution to the experimental study of cancer and the effects of chronic irritation.

LIBRARY TABLE.

Transactions of Edinburgh Meeting and Conference on Tuberculosis. Edinburgh: Morrison and Gibb, Limited. 1911. Pp. 219. Price 2*s.* 6*d.*—The annual meeting of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis was held at Edinburgh in July of last year on the invitation of the Royal Victoria Hospital for Consumption. The gathering was highly successful, and there was a good representation of leaders in the anti-tuberculosis movement from Great Britain and Ireland, America, and the Continent. The transactions of the conference have now been published and contain some interesting articles on the various aspects of tuberculosis. An important discussion on the Avenues of Infection in Tuberculosis was introduced by Professor G. Sims Woodhead, who maintained that, except perhaps in the case of children, pulmonary tuberculosis is comparatively rarely produced by infection through the alimentary canal. He added, however, that when large quantities of tubercle bacilli are taken into the alimentary tract, especially when there is a damaged or abnormal condition of its wall, intestinal tuberculosis localised to or spreading from the seat of invasion may undoubtedly be set up. In these contentions he was supported by many of the speakers who took part in the discussion. The subject of Preventive Measures and Administrative Control of Tuberculosis was introduced by Dr. Hermann Biggs, general medical officer, Department of Health, New York, who gave an account of the administrative measures now in force in New York. Other subjects discussed were: The Incidence of Tuberculosis in Childhood, introduced by Dr. Franz Hamburger (Vienna), and the Working Man in Relation to Tuberculosis, introduced by Mr. C. N. Garland. An account is also given of the annual meeting of the association held on July 4th under the presidency of Lord Balfour of Burleigh. The officers and council of the association may be congratulated on having issued an interesting and valuable account of their proceedings.

Morphinisme et la Morphinomanie et les Différentes Méthodes de Sevrage sans Souffrance. Par le Dr. OSCAR JENNINGS Traduit de l'Anglais, avec une introduction par le Dr. HENRI MIGNON. Paris: Vigot Frères. Pp. 135. Price Fr. 2.50.—The views of Dr. Jennings on the treatment of morphinism by the re-education of self-control and gradual reduction of the drug are well known. He claims that it is possible to cure without suffering or restraint, and sometimes in less time than with the so-called rapid methods used in retreats, methods, he says, that no patient would consent to submit to if he knew in advance what he was undertaking. The present book is said to be a French edition of one of Dr. Jennings's works on the subject, though which one does not clearly appear. Our opinion of Dr. Jennings's principles is expressed in a review in THE LANCET of April 30th, 1910 (p. 1208), on his English work, "The Morphia Habit and Its Voluntary Renunciation." The review concludes as follows: "Dr. Jennings has an intimate knowledge of the many difficulties which have to be contended against when undertaking the treatment of morphinism, and the fruits of his experience contained in this volume should prove of value to those who are concerned in the management of such cases." We have only to repeat our words in connexion with this valuable little work.

New and Non-official Remedies, 1911. Containing Descriptions of the Articles which have been Accepted by the Council of Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1st, 1911. Chicago: American Medical Association. 1911. Pp. 282. Price, paper, 25 cents; cloth, 50 cents.—The Council on Pharmacy and Chemistry of the American Medical Association was organised in February, 1905, to examine and classify the constantly increasing number of proprietary remedies intended for internal and external use that are presented by various commercial firms for the acceptance of physicians. It is composed of a number of eminent American physicians and pharmacists. The various unofficial and proprietary preparations submitted to the Council are reported on as to their composition, purity, action, dosage, the tests of identity, the ethical character of their advertising matter, and such other points as are deemed essential to their countenance and support at the hands of the medical profession. The present edition contains 25 pages of description more than the edition of 1910. The various preparations are also arranged under group headings, so that practically identical preparations issued by different firms under different trade names can be easily recognised as such. Medicinal foods are classified in like manner. The official rules of the Council, with which those preparations whose proprietors desire their admittance to the work must comply, are given with explanatory comments at the beginning. The book is undoubtedly a useful reference work for medical practitioners.

Burmese Self-Taught (in Burmese and Roman Characters) with Phonetic Pronunciation (Ihimm's System). By R. F. St. A. ST. JOHN, Hon. M.A. Oxon. London: E. Marlborough and Co. 1911. Pp. 168. Price 5*s.* wrapper, 6*s.* cloth.—This is a handy little guide to the Burmese language which will be useful, not only to public servants in civil or military employ in Burma, but also to the largely increasing number of travellers, and even tourists, who now go on to that country from India. The language is a difficult one to speak, but we know no better aid to correct pronunciation in this case than Marlborough's phonetic system. A short outline of the grammar is given, which will be sufficient for most European residents, unless they wish to take up a literary study of the language.

In Castle and Court House: being Reminiscences of 30 Years in Ireland. By RAMSAY COLLES. London: T. Werner Laurie. Pp. 320. Price 12*s.* 6*d.* net.—This is a book of chat about celebrities of various kinds, Irish officials, poets, actors and actresses, lawyers, and physicians. Among those of whom much that may not generally be known is recorded, or at least related, may be mentioned Charles Stewart Parnell, Algernon Charles Swinburne, Oscar Wilde, W. E. H. Lecky, Mrs. Brown Potter, Professor Edward Dowden, W. E. Henley, and Miss Maud Gonne. It is a book to read in the train or in the hammock, at any time and place, in fact, when occupation is needed for passive mental faculties that desire to be interested and amused without effort on their own part.

The Annual Charities Register and Digest, 1911. London: Messrs. Longmans and Co. Pp. cclxxvi.-706. Price 5*s.* net.—A little more than half of this book is devoted to classified paragraphs dealing with the various charities of the metropolis, the information supplied being generally complete. The rest of the book consists of a digest of

information respecting the legal, voluntary, and other means for the prevention and relief of distress and the improvement of the condition of the poor. This part of the volume includes several articles on special branches of charitable work, "Tuberculosis and the Tuberculous" and "Inebriety and Inebriates" being written by Dr. T. N. Kelynack, and that on "Lunatics, Idiots, and Imbeciles" by Dr. H. Rayner. There is a very full index to the book.

Songs of the Road. By A. CONAN DOYLE. London: Smith, Elder, and Co. 1911. Pp. 137. Price 5*s*.—This little book of verse fitly opens with "A Hymn of Empire" for the Coronation year, which touches the right chord and impels us to look at the rest expectantly. There is a certain touch of the Empire note that is reminiscent of Kipling in some of the numbers—for instance, "The Empire Builders." Those who remember the author's Songs of Action, published some ten years ago, will find here a sequel to the Groom's Story in the earlier work. After the "Hymn of Empire" we think the best work is to be found in the Philosophic Verses (Part II.), which are in a graver key. "Hope" and "Darkness" are complementary, but we think the latter should have come first and been followed immediately by the other, which is needed to offset the depressing effect that many feel in the presence of the almost absolute dependence of personal characters on the condition of the material body. In Part III., "A Woman's Love" is a true study in psychology; while "Shakespeare's Expostulation" quaintly sums up the case in Shakespeare *v.* Bacon.

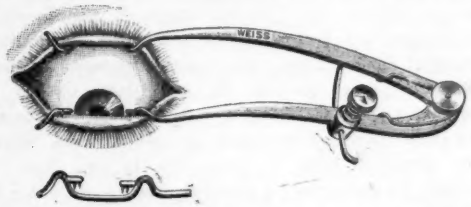
JOURNALS AND MAGAZINES.

The Yellow Fever Bureau Bulletin. No. 1, May, 1911.—This new monthly periodical is the outcome of the establishment of a yellow fever bureau by the Liverpool School of Tropical Medicine. The *Bulletin*, which is issued from the Liverpool University Press, will contain, we are informed, in addition to original articles, abstracts of papers published at home and abroad dealing with yellow fever, laboratory investigations and reports, statistics, and anti-stegomyia measures. It will be managed, we understand, by a sub-committee, consisting of Mr. W. H. Lever (chairman), Dr. J. W. W. Stephens, and Mr. Robert Newstead, with Sir Rubert Boyce and Dr. Harald Seidelin as scientific secretaries. A notice in the *Bulletin* for May asks that all communications be addressed to Sir Rubert Boyce, Yellow Fever Bureau, University of Liverpool, and from this we infer that he will be the editor of the new journal. The first number comprises some 43 pages of printed matter, including editorial notes, reports on recent outbreaks, reviews of yellow fever literature, and a copious bibliography, which extends to nearly three pages. Much of the space of the May issue is taken up, naturally, with the burning question of yellow fever in West Africa. There is a short abstract of the paper which Sir Rubert Boyce read before the Society of Tropical Medicine in London in December last, together with an account of the interesting discussion which followed. We wish this new periodical every success. The focussing of all current investigations and reports on yellow fever in a monthly bulletin must prove of great service, not only to the investigator in the laboratory, but also to the practitioner who finds himself in a country where the disease is likely to occur. Great strides in the advance of our knowledge have been made in recent years as to the etiology and prevention of yellow fever, but much remains still to be done, more especially with regard to the identification of the specific organism. The establishment of a yellow fever bureau and the issue of a monthly bulletin cannot fail to assist in the elucidation of this difficult problem.

New Inventions.

FIXATION SPECULUM.

THE "fixation speculum" was designed to obviate the difficulty which is experienced in fixing the eye while performing such operations as cataract extraction or iridectomy owing to the tendency of the ordinary fixation forceps to cut out. It also does away with any need of an assistant, with the risk of undue pressure on the eye, and gaping of the wound. The fixation speculum consists of a speculum of the pattern most favoured by the surgeon, with the addition of two arms on the lower blade, each bearing two rounded spikes. The upper blade is first put into place under the lid. The points of the spikes on the lower blade are next pressed against the conjunctiva, close to the corneo-scleral junction on either side of the cornea. The blade is now put into position behind the lower lid, so rotating the eye down and fixing it in the position most favourable for operation. In the operation for cataract the fixation forceps can be



entirely dispensed with, or may be used to give additional security. In performing an ordinary iridectomy the fixation forceps are used to exert pressure upwards, against the downward pressure of the keratome; when the incision has been made the fixation forceps can be confidently laid aside and both hands of the surgeon are left free to complete the operation. Owing to there being four separate rounded spikes holding the conjunctiva I find that it is practically impossible for them to cut out; the direction of pull of the lower blade being tangential to the globe, it is impossible for any pressure to be put on the globe so causing the wound to gape. In very nervous patients it has the additional advantage of getting the patient accustomed to the eye being fixed in position before the operation commences. I have found that patients then gain confidence, and the surgeon need not commence until the patient is quiet. The speculum can be removed as quickly and easily as the ordinary pattern, it being immaterial which blade is removed first. The points must be kept well sharpened. The instrument is made by Messrs. John Weiss and Son, Limited, of Oxford-street, London, W.

Hove. W. H. BRAILEY.

DURHAM UNIVERSITY MEDICAL GRADUATES' ASSOCIATION.—The members of this association are reminded that the annual meeting and dinner will take place to-day, Saturday, June 17th. The meeting will be at 11, Chandos-street, at 6 P.M., and the dinner at the Imperial Restaurant, Regent-street, at 7.30. Charge for dinner, 7*s*. 6*d*. (exclusive of wine) may be paid in the room. All medical graduates of the University are cordially invited. Communications should be made to Mr. Bryden Glendining, honorary secretary of the association, at 7, Devonshire-place, London, W.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this association will be held on Thursday, July 6th, at 3 P.M., in the council chamber of the British Medical Association, Agar-street, Strand, London. Surgeon-General G. J. H. Evatt, C.B., president of the association, will be in the chair, and after the annual business has been transacted the meeting will be open for discussion on Poor-law medical subjects. A paper will be read, entitled "The National Insurance Bill and the Poor-law Medical Service," by Dr. Major Greenwood. All medical men interested in Poor-law and other professional subjects are cordially invited to be present. The usual annual dinner will not take place this year.

THE LANCET.

LONDON: SATURDAY, JUNE 17, 1911.

The Metropolitan Hospital Sunday Fund.

LET it not be forgotten by any of us that to-morrow is Hospital Sunday. The present year of Grace will rank as no ordinary date in the annals of the hospitals of London and its environment, and of the Metropolitan Hospital Sunday Fund. The coming Coronation of their Majesties King GEORGE V. and Queen MARY is occupying popular thought, and although so happy an event may have its effect in opening more widely the purses of many of those able to give, there is always the countervailing possibility that others, owing to the same cause, may forget or may be absent, or in various ways may be prevented from supporting the Fund with their usual contribution. There are also many matters impending which, perhaps insensibly but not less surely, will effect in one direction or another the generosity of the voluntary supporters of hospitals. These latter causes may begin to operate even now, so that we propose to refer to them again presently in addressing ourselves upon this annual occasion to the wider public which lies outside the circle of our usual professional readers. For the moment we must bear in mind, however, that the Coronation is the topic of the hour, and we urge upon all the duty of celebrating it by a special effort to alleviate suffering, while enjoying the exhilaration and happiness associated with a great occasion of public festivity and national rejoicing.

The contrast between the Hospital Sunday of 1911 and that of 1910 will impress itself upon all who pause for reflection. Last year at this season the nation had not long put on its mourning for the great Monarch who, for a comparatively brief period, had ruled it so wisely and who had won its confidence and loyal respect in so marked a degree. Some anxiety was then felt by those interested lest in a season of grief and depression the finances of the Metropolitan Hospital Sunday Fund might suffer. They did not; the total collection for the year was a very good one. To-day the scene is widely different, as a glance at those who throng London's thoroughfares will show. All are awaiting with eager expectation a period of brilliant ceremonial and spectacular display in the capital of a vast Empire, accompanied by widespread rejoicing throughout its borders. In the opening weeks of summer fine weather has favoured the plans of those who have flocked to England from all quarters of the globe to do homage to the KING and QUEEN, or to join in the festivities attending their enthronement, with the result that we are now at the height of the gayest "season" that London has known for many years. It is easy at such a time to forget that pain, sorrow, even hopeless suffering, are being endured by others, and to put aside, perhaps unconsciously or perhaps deliberately until a more convenient date, the practical demonstration of that sympathy which more leisured thought must assuredly awaken. Further, those who point out that the cost of loyal rejoicing is great and must be met, and that the pleasures of society do not grow simpler or more easy to compass with a limited income, can speak without contradiction, and their views will have, perhaps, an ill effect upon half-hearted givers. It is in these circumstances, and with full appreciation of them, that we urge upon the people of London, upon the strangers in our midst, and upon our kin from beyond the seas most especially, the duty of remembering the hospitals, and of taxing themselves in the midst of their pleasures on behalf of those who are enduring pain. The Empire may rejoice and London may keep holiday in the Coronation year, but the worker who ministers to the pleasures of others still gains his wage by toiling at high pressure, and when illness or accident strikes him down it is to the hospital that he turns for that care and nursing which for many long years, despite the evolution of social machinery, will be hopelessly beyond his reach unless charity stretches out a helping hand.

Charitable institutions, founded and supported by the benevolent as the outcome of sympathy with physical suffering, our voluntary hospitals have been an example to the world. They owe their inception to no government or ruler, and have derived no support from the revenues of the State. We find sporadic recognition of them, shared with other charitable institutions, and relieving them from some at least of the burdens of imperial taxation, but to local rates they contribute as if their status were that of the profit-earning enterprise, although all the time they are lessening the burden of the guardians by enabling the working man to retain or to resume his independence. Moreover, in the days before Poor-law infirmaries existed or had attained the measure of efficiency which now in many places they display, it was to the voluntary hospital that the guardians looked for the care of the poor patient in their charge, and the same reliance upon them has not yet ceased universally, although it no longer affects London institutions so closely. We are not, however, claiming the gifts of those who support the Metropolitan Hospital Sunday Fund upon the ground of the gratitude that may be felt by any member of the community on account of pecuniary advantage derived from the work undertaken by the hospitals. Charity is the first motive that must stimulate liberality—a pitying love for men, women, and children in need of healing care and of the help of science and skill. There may be gratitude also to strengthen the charitable sense, but the impulse should have a different source. It is as centres of professional training and of scientific discovery that the great hospitals of London have established their claim to the gratitude of those who never have been or will be their inmates. The knowledge and skill acquired in their schools and in their wards are at the disposal of those to whom appeal is now made for money to support them. The training

afforded by the hospitals has fitted for their work the eye and brain of those whose investigation into causes of disease is lessening human suffering throughout the world, and in countries separated by thousands of miles from lecture-rooms and laboratories. At such a period as this, when countless visitors are amongst us who own the sway of King GEORGE and Queen MARY in their homes beyond the seas, it is not out of place to recall the part that science has played, and now plays in an increasing degree, in aiding the work of the pioneer of civilisation, and in consolidating and confirming the influence of the mother country, where the existence of a healthy and contented population would otherwise be impossible.

In our opening reference to the circumstances which must render the present year a momentous one for those who have at heart the prosperity of our hospitals and the Metropolitan Hospital Sunday Fund, we were alluding to the impending provision by statute of a national system of insurance against sickness for the working classes. This subject is naturally one of immense interest to the medical profession, and the discussion of the medical proposals contained in Mr. LLOYD GEORGE'S Bill, which has taken place in lay as well as in medical newspapers, has certainly given rise to an impression on the part of the public that the medical profession is opposed to the Bill. This is the case in the sense that the medical profession, whose members are in the position of expert, if to some extent interested, critics, has criticised frankly and not generally favourably those parts of the measure with which it is most concerned. Many medical men are opposed to the medical clauses of the Bill in principle, and there is a well-nigh universal opinion that in matters of important detail the Bill as it now stands will not promote as fully as it might the interests of the public, while at the same time it will alter prejudicially the conditions of medical practice. The questions, however, that have been raised as to the administration of the benefits arising out of the Bill by friendly societies, as to the allowing to patients a free choice of medical attendants, as to paying the latter by fees and not by an annual sum in respect of each person to be treated by them, and as to a wage-limit defining the class of persons to be benefited—none of the disputes now raging round those important matters diminishes the welcome which the medical profession has given to a large-minded attempt to grapple with a difficult and insistent problem. But the precise effect upon the voluntary hospitals of the Bill when it becomes law is a subject also of the greatest possible professional importance. Exactly what that effect will be is hard to guess, but one thing is certain, that the fact that the Bill is before Parliament is no reason for any withholding of support from the great voluntary institutions of the metropolis, but rather for continued and increased generosity towards them.

If Mr. LLOYD GEORGE'S Bill, after large and conciliatory amendment, takes the form of an Act of Parliament secure of the coöperation of the medical profession, it should render the general treatment of disease among the working classes more prompt and efficient. At the same time its effect upon the voluntary hospitals should be to make their usefulness more certain and to direct their services systematically towards the relief of those cases most urgently in need of hospital treatment. This is tantamount to saying that the hospitals under the Bill will be more, rather than less, deserving of support in the future than they have been in the past. The public should grasp this fact, for at first sight the measure may seem to relieve the hospitals of a great deal of work. The care of the sick poor, when they suffer from ailments which can be treated without institutional aid, will be systematised; medical attendance will be brought within their reach, and rendered universal; and the hospitals will thus be freed from the excessive burden of their out-patient departments. That may be true; but their in-patient departments will be subjected to a greater strain than ever, and it is these that are so costly to a hospital. It has been, hitherto, a necessary result of the confused and varying conditions under which medical attendance is sought (or neglected) that many cases of serious illness are not dealt with at all, or are only discovered when it is too late to treat them effectively. The out-patient departments, if we are correct in our forecast of what may happen under the new scheme, while finding themselves in due course relieved from what has been, in the case of those able to pay, an undesirable burden, will take a more arduous scientific position as consulting-rooms for the poor, when consultation is deemed desirable by their medical advisers, and through them there should then pass into the hospitals' wards an increased number of cases which owing to their need for institutional treatment, and owing to the conditions of the patients' homes, cannot otherwise be dealt with properly. With greater certainty than is now possible cases will be eliminated for which hospital treatment is not a necessity, but for every patient thus excluded one in more genuine need of admission will be found.

It must strengthen the claim of the Metropolitan Hospital Sunday Fund for support if the hospitals of London should have the usefulness of their work, magnificent as it now is, rendered even greater and surer in the future. Further, the funds of these hospitals will be endangered by the proposals of the Bill, not so seriously as in northern and manufacturing towns, where the subscriptions of working men count in a more important manner in the revenues of the charity, but none the less the hospitals will suffer financially. In the first place, they will have to pay heavy insurance money for their employees. Next, they will lose subscriptions from those employers of labour who will regard their compulsory payments as making them quit of any responsibility towards charities. Lastly, they may suffer from the deprivation of the results of workmen's collections, particularly as represented by the Hospital Saturday Fund. The tax imposed for the sake of obtaining more regular and more systematic treatment of the worker in disease will have to be borne by those, both workers and employed, who now contribute voluntarily to the funds of hospitals and to the Metropolitan Hospital Sunday Fund. The danger will have to be faced, lest the loss occasioned by the withdrawal of subscriptions on the part of those who are thus taxed for a similar object should diminish hospital revenues and cripple their efficiency. In whatever way this difficulty may be met in the future, its existence is an additional reason for all to strive that the Metropolitan Hospital Sunday Fund

in the present year should exceed, if possible, its former records. For the hospitals are, and must continue to be, necessary for the treatment of the poor in all circumstances and conditions requiring the highest surgical skill, the best of nursing and the most carefully planned scientific environment. In their work in treating cases of accidental injury, the portion of their daily service to the public which secures for them the widest and most ready recognition, appealing most picturesquely to the public eye, we do not see that the hospitals will be affected by the Bill. The hospitals in cases of urgent need open their doors to all; wealth forms no barrier to the admission of the injured person to the ward which charity supports, or to the retention of the wealthy man there as long as it is necessary for his sake; and if the burdens upon hospitals should later lead to some form of State subvention (our antipathy to which has never been concealed), the presence of a big tax-payer in the wards will be even just.

Of the generous goodwill of the KING and QUEEN constantly evinced towards the hospitals we need not write at length. They have inherited a tradition of kindly sympathy with their subjects in every detail of those subjects' lives. By King EDWARD and Queen ALEXANDRA they have had a noble example set them in this respect, and the sympathy with all ranks and classes has found no more practical manner of demonstrating its great power for good than in the support which they have accorded to every movement for strengthening and bettering the position of the hospitals of the metropolis. King GEORGE himself has brought his personal acuteness of mind and industry of temperament to bear in a notable degree on the science of healing by acting as chairman of the King's Hospital Fund for London. If it be right, as indeed it must be, to remember the poor and suffering at such a time of universal rejoicing as the Coronation, we feel no hesitation in insisting that that remembrance may most appropriately be exercised by rich and poor alike in giving liberal and ungrudging support to the Metropolitan Hospital Sunday Fund, following in such action the example of him whose Coronation we are so shortly to acclaim. Rich and poor alike are beneficiaries of hospitals. The rich sufferer may find himself the inmate of a hospital because some unexpected and unusual accident connected with his motor-car or carriage has left him helpless and injured in the street within reach of the doors of the institution. For the worker accidental injury is the daily risk of his labour in factory or in dockyard, upon the scaffolding of new buildings, upon the crumbling walls of old ones in course of demolition, above ground or below. For the wife or children of the worker the street accident is a daily risk, connected in the case of the latter with the enjoyment of their only playground. To children, therefore, the collection of the Metropolitan Hospital Sunday Fund should vividly appeal, and upon children no less than upon their grown-up relatives it must rely for that help which is afforded by all who not only give themselves but who remind others of "Hospital Sunday." It is essentially the occasion for all such as may not desire to see their names figuring in subscription lists; whose contribution, although it means something to them in self-denial and a great deal to the hospitals when it is combined with other like sums, is yet a small one when compared with that which the wealthy can afford. And the Coronation year seems to be an occasion when the small giver should contribute more freely, for it is an occasion of universal rejoicing. All should give.

The National Insurance Bill.

AMONG the letters published in THE LANCET this week upon the National Insurance Bill two are of outstanding importance. Sir ALFRED PEARCE GOULD, in words which we should all weigh seriously, warns the medical profession that the struggle should have been made from the first against the principle of the Bill in its medical provisions, and not against the details of those provisions. Dr. LLOYD OWEN accepts the principle of the Bill, but is in general line with other members of the medical profession in finding the medical provisions totally inadequate, and puts the reasons in a convincing manner. There is time for reconciliation of the policies to some extent, for there is nothing to prevent the Local Health Committees from making the payments depend upon work done.

The past week has produced no new developments in the medical aspects. The position is practically unchanged from that which we described on June 10th. The British Medical Association has issued a circular letter to the practitioners of the Kingdom, outlining the action already taken by the Association, and defining the policy which it has decided to adopt. The letter urges the medical profession to sink individual differences and give its whole-hearted support to the programme laid down. The policy of the British Medical Association has already been fully described in our columns, and is essentially that which was endorsed by the mass meeting of practitioners held at the Connaught Rooms in London on June 1st and reported in our last issue on p. 1616. The attitude of the Chancellor of the Exchequer does not appear to have altered in any respect from that which he maintained when he met the representatives of the British Medical Association on June 1st, or indeed since he made a communication to our columns on May 20th. His speech at Birmingham on Saturday last dealt but briefly with the medical side of the Bill. He admitted that what he described wrongly as "this wrangle in the sick room" had got to be settled, but he implied that the sum of 6s. was not far short of the happy mean between the rival claims of medical practitioners and friendly societies. There was nothing in his words to show that he contemplated making any concessions whatever to the demands of the medical profession. Of the general contents of the Bill he said, "I cannot spare a single parcel," which may or may not have deep significance.

To us it seems as though the Chancellor intended to persevere with the measure unaltered and thereby to court the resistance of medical men; for although all medical men are not agreed upon the measure of inadequacy of the terms offered, the vast majority of them are clear that the Bill forms a serious threat to their professional stability and prospects. The action taken by the Council of the Royal College of Physicians of London in consulting the Licentiates of their body upon the whole matter,

inviting an actual investigation by them of their receipts from the patients who will be affected by the measure, is a thoroughly wise one, and we trust that the College will be placed speedily in possession of facts that will enable it to uphold professional rights. Licentiates of the College should reply at once. Quite soon after the Coronation festivities the Bill will be taken in its Committee stages, and if the intervention of the College is to have practical effect the information which is sought should be given in the course of the next few days.

Annotations.

"Ne quid nimis."

THE MEDICAL FACTOR IN CHURCH MISSIONS.

THE Pan-Anglican Congress offered few more interesting features to its members and to the outside world than its Medico-Missionary Section, in which evidence was accumulated of the importance of the healing art as a factor in the reclamation of the heathen and indeed as an essential condition of success. From every part of the evangelising field came convincing attestation of the good effected and the progress made when the two forces, religious and medical, went hand in hand. Still further demonstration of the fact was put in evidence in the great World's Missionary Congress held last year at Edinburgh, and in the same city the General Assemblies of the two branches of the national faith have just afforded additional proof of the harmonious working of the "Dual Entente," or rather of the "Dual Alliance" referred to. With a unanimity not always conspicuous on other themes, the Established Church and the United Free say "ditto" to each other in acknowledging the medical contribution to evangelising success; indeed, their concern seems to be not so much to maintain as to extend and reinforce that contingent in the *corps d'armée* of missionary enterprise. The Rev. Dr. Ogilvie, in submitting the report of the Foreign Mission Committee of the Established Church, announced the accession of 2700 native Christians to the 21,000 already on the roll—the largest addition to the Christian Church they had recorded in any one year. This, he added, was a gain even over and above the record of sister Churches—a gain which, as another divine, the Rev. Dr. Wallace Williamson, pointed out, might in future years be enhanced by maintaining at its full power the Women's Foreign Missions Association. In one direction he showed that this latter contingent might be greatly strengthened by "developing the noble work of the Medical Mission." This, he said, was a field peculiarly open to women in India. Trained in the science and practice of the healing art, the educated women of the Church would respond in even greater numbers than heretofore, to the reinforcement of their own association and to that of the foreign mission at large. In the United Free Church the thirty-fifth annual report of the Livingstonia Mission gave interesting details of the progress of that enterprise, contrasting the wary procedure necessitated by the attitude of the natives a quarter of a century ago with the hearty coöperation, even financial as well as intellectual and moral, of the said natives in the day now passing. That progress really dated from the accentuation of the medical factor in the *personnel* and in the working of the mission, and furnishes, in Baconian phrase, an "instantia prærogativa" of which other missions have found their account in utilising. The generous acknowledgment of the success of sister churches in promoting the reclamation of indigenous populations has been not the least gratifying feature of recent missionary congresses, and the intervention of the healing art, which knows no distinction of creed or sect, may be fairly credited with this beneficent change, operating as it does to the extinction of those rivalries which in the past have proved such a hindrance in the conquest of native suspicion and jealousy.

THE BIRTH OF A MOSQUITO.

A VERY interesting process of nature, the emergence of a culex or anopheles mosquito from its pupa, has been analysed, described, and explained by Dr. Adolph Eysell in the *Archiv für Schiffs- und Tropen-Hygiene* recently. The mosquito pupa, as we all know, is a little brown thing like a comma, but rotated 120° to the left, floating just under the water, and touching the surface with its highest part and also with the breathing tubes, which project forwards and upwards from its thorax. From four days to a week it remains in this stage until its development is complete; then it breaks through its chitinous envelope to emerge as the fully developed winged imago. This change generally commences in the morning, although, as Dr. Eysell notes, mosquitoes are twilight insects. But how does the mosquito burst its envelope, and how does it get itself out of its free floating case without allowing a drop of water to get in to clog its wings and ruin its chance of life? These are the puzzling, little-considered questions which Dr. Eysell has set himself to answer for us. In the paper in question he tells us that when the pupa has completely matured it begins steadily to uncurl itself, first to straighten itself out and then to become concave upwards, so that it touches the water surface with the end of its tail at one end and the back of the cephalo-thorax at the other. While this change of shape is proceeding (perhaps, indeed, as a preliminary) the pupa is taking air in by its breathing-tubes with increased rapidity. If it is to get itself clear of the pupa case it must separate itself all round, and that it does by secreting air under the chitinous envelope and making a space all round itself. Its colour consequently changes from brown to silvery white. Naturally its specific gravity has now become much less and in consequence its thorax floats up above the water. This absorption and secretion of air go on till the case becomes overfilled with air and bursts along the line of greatest weakness in the middle line of the back of the thorax, in the now unwetted surface. The split extends forwards to the neck where it meets a shorter split at right angles, and in front of this latter a four-sided flap forms which turns forwards over the back of the pupa's head. The tension within and the elasticity of the chitinous envelope make the opening gape and its edges curve away outwards so that they never interfere with the advance of the emerging insect, while at the same time, like weathercloths in a boat, they keep water from entering, besides increasing the displacement and supporting power of the floating pupa case. Into the oval opening thus formed there projects the back of the thorax of the imago. Dr. Eysell remarks that as usual it is the largest part that presents, like the head of a child and the larger end of an egg. The thorax is dry and covered with scales, and after some dozen backward slips of the pupa case it becomes completely free. Then the neck and the fully flexed head appear, delivery being helped by the disposition of the scales and hairs which, all over the mosquito, slope away fom the oval opening, thus lessening friction as the parts slide past the edges and at the same time prevent their return. To facilitate delivery the scales on the head slope forward, those on the body slope backward. Now the jerking movements cease and the mosquito "comes out of its prison like an actor through a trap-door." As soon

as the head is born it extends itself, the antennæ become free, the palpi, too, and the proboscis, and now the imago begins to swallow quantities of air, so that its body gets blown up, and becomes too large for the narrow-coned end of the pupa case, out of which it gradually slips forward, as it easily can, its scales and bristles being directed backward. As the end of the body travels forward the anterior part of the abdomen turns vertically upward at right angles and stands up out of the pupa case, the body, indeed, inclining a little backwards to balance itself. The legs are next drawn out of their cases slowly and gradually so that equilibrium may not be disturbed. First the front pair, joint by joint, appear on each side alternately; there is a little advance on one side and then the same on the other, so that the developing mosquito may run no risk of an overset or a capsize. When the first pair of legs has been thoroughly freed they are flexed for the time against the abdomen to be out of the way while the second pair is being just as cautiously brought out. But now when both pairs are ready the mosquito bends slowly forwards and (one can almost imagine with a sigh of relief) gently places its four feet, all it yet has, lightly on the water surface and so secures for itself, if not a *pied à terre*, at least a stable equilibrium. The third pair of legs is now drawn out, the wings, which have been gradually unfolding themselves, are now fully spread, and the end of the abdomen becomes completely freed. The whole process, so tedious to read, lasts but a few minutes, and it is clear that the pupa literally blows itself out of its case. That air, and air at pressure, is required is shown by various experiments. A pupa which has changed from brown to white is just about to be transformed; in a quarter of an hour it will be an imago. If now it be submerged development will cease but it will live yet for half an hour. Again, if the end of the case and the pupa be cut off with fine scissors before the burst has occurred the absorption and secretion of air will blow the body contents out through the wound, but if the cut be not made till the case has opened, bubbles, about 20, will come through the wound, and in neither case will development proceed further. But for the many further details of the metamorphosis and for an exact account of its nicely adjusted arrangements, we must refer our readers to the original paper which, with true patience and scientific spirit, the ingenious author seems to have meditated upon for ten years or more before he entrusted it to the press.

SUDDEN DEATH FOLLOWING A PROPHYLACTIC INJECTION OF DIPHTHERIA ANTITOXIN.

THE "serum sickness" following the antitoxin treatment of diphtheria is due, not to the antitoxin, but to the horse serum containing it. The symptoms—fever, an urticarial rash, and pains in the joints—seldom appear in any relation to the injection, and usually subside without causing any anxiety. But sometimes a much more severe and rapid reaction occurs and may even prove fatal. This severe reaction is especially liable to follow a second injection of antitoxin, when it is attributed to anaphylaxis or increased susceptibility produced by the previous injection, but it may also follow a first injection. The symptoms in this latter class are usually intense dyspnœa, with failure of respiration and collapse. Occasionally there is a rash, which is usually urticarial. An American writer, Dr. H. F. Gilette, has recorded one case and collected 29 others, most of which occurred in the United States. Sixteen out of the 30 cases were fatal. It is noteworthy that 22 of the patients were the subjects of asthma or some similar disorder. Dr. E. W. Goodall has suggested that the serum produces an affection of the respiratory mucous membrane like the urticaria which develops on the skin at the same time. In the *Boston Medical and Surgical Journal* of April 6th Dr. S. F. McKeen has reported the following case. A domestic servant was removed to hospital suffering from diphtheria. As the members of the household had been exposed to infection—a woman, her daughter, and a second servant—they were given 500 units of antitoxin. The daughter, aged 17 years, attended a high school, and called at Dr. McKeen's office on her way home. Casual examination showed that she was wel developed and well nourished, but of pasty complexion. As in the case of the other patients, 500 units of "State antitoxin" were injected deep into the deltoid, with the usual aseptic precautions. The nose and throat were then examined to find the cause of a chronic coryza from which she suffered. Only some adenoids and slightly enlarged tonsils were found. After the examination she sneezed a number of times but otherwise did not seem disturbed. She left the office with her sister, to whom she almost immediately complained of "stinging all over." They returned, and the patient collapsed on the steps and was carried in and laid on the floor. She was completely unconscious, cyanotic, and pulseless. The breathing was difficult, and frothy and serous fluid ran from the mouth and nose. The body was limp, the face looked swollen, and the corneal reflex was absent. In spite of artificial respiration, rhythmical traction on the tongue, and hypodermic injection of strychnine death rapidly ensued and took place within 15 minutes of the injection. The necropsy revealed a persistent thymus gland, weighing 25 grammes, its left lobe extending to about the level of the third costal cartilage, numerous enlarged lymphatic nodes in the mesentery, swollen Peyer's patches, an enlarged spleen, and small adenoids. The heart was normal, and the lungs showed a little œdema. The status lymphaticus was therefore diagnosed. Further inquiry showed that the patient had suffered off and on from attacks of asthma (thymic asthma?), and for some time was troubled with a watery discharge from the nose. The value of antitoxin in diphtheria has been abundantly proved, and except in the case of an asthmatic no question can arise as to the advisability of administering it. In such a case it is a choice of evils. Dr. Goodall recommends that if the attack of diphtheria is severe, and especially if the larynx is involved, the risk that the patient is supersensitive to the serum must be taken. But he is averse from using antitoxin as a prophylactic. As far as we know only one fatal case of death following the injection of antitoxin has occurred in this country. It closely resembles the case related above. An asthmatic girl, aged 18 years, received a prophylactic injection of antitoxin, as her sister was suffering from diphtheria. She complained of smarting pains and said that she was suffocating. She became worse and in a few minutes fell from her chair and died. Dr. W. Collier, of Oxford, who made the necropsy, found the lungs and heart in such a condition as would be caused by a sudden and extreme spasm, and this might be accounted for by an acute attack of asthma.

RADIO-CINEMATOGRAPHY.

EVERYONE is familiar with the important part played by radiography in the diagnosis of certain lesions. Various attempts have been made to obtain cinemato-radiographs—i.e., photographs which can be placed in a cinematograph to reconstruct and make visible the movements of an organ such as the heart, lungs, or intestines. Carvalho in 1900, at the Institut Marey in Paris, was one of the first to obtain films which in the cinematograph showed the movements of deglutition, the movements of the stomach and intestines in the frog and other animals, as made visible by the X rays. Such a film was shown at the Royal Institution on May 12th last by

Professor W. Stirling. Other observers have been more or less successful, but the difficulty is to obtain 16 exposures per second. Unless there be this number the successive images cannot be efficiently combined by means of the cinematograph. Lomond about a year ago made some experiments in this direction, and quite recently he and Dr. Comandon have arranged a method which he thinks will prove of immense advantage in the study and demonstration of various movements not visible to the unaided eye. By using an apparatus of high tension, a Crookes's tube, and a special interrupter of high tension, which was so arranged that the rays affected the tube only during the time of photography and not in the intervals, these observers—by means of a special quartz objective and the use of a screen on which the images were projected—were able to obtain a series of images on a sensitive film which could be used in the cinematograph. The screen used was not the ordinary platino-cyanide fluorescent form, but a special one, known as "Écran renforçateur." The high tension apparatus and tubes were placed in one room and the cinematograph camera in an adjoining room. A partition separated the two rooms, and into the partition the reinforcing screen was fixed. In front of it was placed the Crookes's tube and between the tube and the screen the object to be X rayed. The observers were able to get 16 photographs per second of a frog. The photograph films of a monkey show, when projected, the movements of the heart, diaphragm, stomach, intestines, and so on. They have also obtained images of the movements of extending the fingers and supination simultaneously, extension at the elbow-joint, flexion at the knee-joint, movements of the abdominal contents in a monkey, and so on. Undoubtedly this method when further improved will prove of the greatest possible use, as it takes only a quarter of a second to obtain a radiograph of an elbow-joint, and half a second for the movements of a knee-joint.

THE "BLOW-OUT" SYSTEM OF VENTILATION.

CLEVELAND, Ohio, holds a prominent place among the many progressive towns in the United States, and like many other communities it is taking thought to solve the troublesome problems of ventilation. Here and there all over the world buildings may be satisfactorily ventilated, but as a rule mechanical means scientifically applied are considered too expensive and complicated and too often such means do not prove wholly satisfactory. Consequently such ventilation as is provided in public buildings is liable to depend on the temperature and the wind for its satisfactory working. In Cleveland the authorities have frankly recognised that the heating apparatus in the schools warms, but does not effectively ventilate. Apparently they also have no hope of being able to provide proper ventilating apparatus. The result is that they have taken counsel of despair and adopted what is graphically described as the "blowing-out" system. At stated intervals a gong sounds; thereupon the children leave off their studies and commence marching exercise, calisthenics, or run out into the playground. At the same moment every door or window is thrown wide open, the fresh air rushes in, and the class-rooms are given a good "blow out." In a few minutes the air has been thoroughly renovated, and then the gong sounds again for the children to resume their studies. This is certainly preferable to a strong draught blowing in one direction while leaving other parts of the room in a stuffy condition. The "blow-out" system might also be adopted for the old-fashioned railway carriages that have no ventilators in the roof. To-day it often happens that a traveller is obliged to sit still for hours with a piercing cold wind blowing violently on one side of his person from a partially open window. He cannot keep himself warm by taking exercise, he does not want to exclude fresh air, but he does not like the dust that is blown upon him sometimes to the injury of his eyes, and always to the impairment of his clothes. It would be much more comfortable to shut both windows, and occasionally open them both for a minute or two, thus giving the carriage a thorough "blow out." Then it would be possible to sit in an airy chamber free from draughts and injurious particles of sand or cinders, but any such proceeding would call for an amount of urbanity from the mixed inhabitants of the carriage that must be past praying for.

ARTERIO-SCLEROSIS AND ITS RELATION TO CHANGES IN THE MEDIA OF ARTERIES.

THE group of diseases of the arterial walls comprised under the general terms of atheroma and arterio-sclerosis is still somewhat ill-defined, in spite of the large amount of pathological and experimental work which has been devoted to its study. An interesting review of this subject, based upon personal observations as well as upon a study of the literature, is given in a monograph by Dr. Oskar Klotz,[1] of which we have received a copy. He commences by stating that it is now generally recognised that this disease, instead of being generalised, may be localised to the arteries of one particular organ, that it may involve one particular type of artery only, and that it may be limited to one or other zone of the arterial coat. He maintains that the recent studies of Jores and others have established a satisfactory basis for classification of the intimal changes, but that the lesions of the media are more obscure, so that there is still much confusion both as to their nature and mode of development and as to their relationship to the intimal changes. In opposition to the views of Jores, who maintains that arterio-sclerosis is essentially an intimal disease, Dr. Klotz includes under this term any change in any of the three coats of the artery which leads to a thickening or hardening of the vessel wall. These changes he classifies into productive and degenerative, and further subdivides according to the nature of the resulting lesions in the vessels. He admits that, employed in this manner, the term arterio-sclerosis becomes generic and not specific, and requires a qualifying adjective to distinguish the individual or special forms. The term atheroma has been variously used by different authors; for Dr. Klotz it is a degenerative change followed by calcification beginning in, and usually confined to, the intima. It may advance into the media, but seldom, if ever, originates primarily in this coat. He gives an interesting review of the histology of arteries and of the functions of the media, and emphasises the facts that this coat is the mainstay of an artery, and that upon its integrity depends the resisting power against intra-vascular pressure. Dr. Klotz differentiates medial arterio-sclerotic processes from other conditions leading to thickening of the arteries, and he divides them tentatively into productive and degenerative varieties. Certain forms he regards as meriting special recognition, one being syphilitic mesaortitis, which can be recognised both by its macroscopical and histological characteristics; a second being Moenckeberg's arterio-sclerosis, which is a degenerative condition of the media of the peripheral arteries following upon intermittent arterial overstrain. The principal factors causing disease of the media are infections, poisons, work, and old age. The effect of any of these depends upon the histological structure of the artery affected and upon its function. The same agent may give rise to several kinds of arterio-sclerotic processes, but

[1] Arterio-sclerosis, Diseases of the Media and their Relation to Aneurysm. By Oskar Klotz, M.B. Tor., M.D., C.M. McGill. Publications from the University of Pittsburgh Medical School, 1911.

it must be remembered that the presence of disease in one system of vessels must not be taken as indicating disease in another arterial system, and that medial sclerosis is often present without intimal sclerosis in the same vessel. Dr. Klotz shows that aneurysms are directly dependent upon the diseases of the media of arteries, and that the nature of the aneurysm is determined by the character of the medial disease—e.g., syphilis is the most important factor in the production of chronic mesarteritis and aneurysm of the aorta, while medial weakenings from causes other than syphilis are more frequently associated with aneurysms of the peripheral arteries. Dr. Klotz's work upon the genesis of arterial disease is well known, and we welcome this review of the subject of diseases of the middle coat as a notable contribution to the scientific study of medicine.

RESEARCH DEFENCE SOCIETY.

THE annual general meeting of this society will be held at the Royal College of Physicians, London, on Monday next, June 19th, at 5 o'clock. The Earl of Cromer, President of the society, will preside and will give an address, and the list of speakers will include Sir Frederick Treves, Mrs. Garrett Anderson, and Sir Gilbert Parker. The committee hopes that all supporters of the society will be able to be present at this meeting, and thus by their practical support extend the useful work of the society. The honorary secretary (Mr. Stephen Paget, 21, Ladbroke-square, W.) and the hon. secretaries of the branch societies will always be happy to provide literature and coupons, and to make arrangements for lantern lectures, addresses, and drawing-room meetings, with a view of spreading scientific knowledge and the meaning of medical research.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.—This society held its annual dinner at the Holborn Restaurant on June 8th, which was very well attended. The chair was taken by Sir Thomas A. Bramsdon, coroner for Portsmouth. After the usual loyal toasts, Mr. Isaac Bradley, coroner for Birmingham, in proposing the toast of "Imperial and Local Government," said that he had a higher opinion of local government than of Imperial Government. In the former case they worked under a greater sense of responsibility and paid for their own mistakes. Most Bills that went to Parliament were generally pretty good until after 670 men had done meddling with them. Sir Luke White, responding for Imperial Government, referred to the Insurance Bill, and said that it, like other Bills of general interest, ought to be discussed from the view-point of the interests of the country and not of any party. As to the coroners, they were not officers of the municipality or the county council, but carried out their duty in every great department of State. They ought to be officers of the Imperial Government and responsible to it. Mr. Edward White, chairman of the London County Council, responding for municipal government, saw no justice in dealing with municipal matters on party lines. The people of most use were those of whom we heard very little—like the coroners. The drainage system, the parks, the fire-brigade, were all arranged thoroughly well by the London County Council. He hoped that London would some day find itself in the position of many European and most American cities, able to deal more effectively with all matters that affected itself. With regard to the National Insurance Bill, they were all agreed with it in principle, he said, but examination of its methods would show that it threw a great burden on the city of London, whose ratepayers were already groaning under the burden of rates. Other toasts were the "Coroners' Society," proposed by Mr. Power, and replied to by the President; "The Guests," responded to by Sir Mackenzie Chalmers and Sir Malcolm Morris; "The Officers of the Society," proposed by Sir Luke White, who coupled with it the name of Mr. Walter Schröder, the secretary. The President then presented an illuminated address and a cheque to the secretary, Mr. Schröder, who replied.

AN INVESTIGATION OF CERTAIN SUBSTANCES USED IN COLOURING FOODS.

BY SAMUEL RIDEAL, D.SC. LOND., F.I.C., F.C.S.

(Concluded from p. 1601.)

Administration to Human Subjects.

THREE experiments were tried on one subject (J. W. F.), the same plan being followed and the same conditions observed as in the experiments on egg yellow and lemon yellow.

I. For five days the subject took daily 1 grain for every 10 lb., or 1/70000 part of his body weight, in 4 doses proportional to the food taken at each meal, the quantity of annatto substitute given being 0·77 grm. per diem, equal to 3·85 grm. altogether.

II. After a sufficient interval a second similar course was given, the daily dose being increased to 1/10,000 part of the body weight—i.e., 5·4 grm., or 27 grm. in the five days.

III. After another interval a saline purgative was given, and when the bowels were acting naturally a single dose of 1/5000 part of his weight = 10·8 grm. of annatto substitute was administered on an empty stomach.

General observations.—The rate of pulse and respiration, the temperature and body weight, the state of the tongue, action of the bowels, composition of the urine, and the subject's general condition were closely watched during and after the administration periods, and were compared with observations made when annatto substitute was not being given. No toxic or other symptoms were detected. The results obtained were compatible with and within the range of the subject's usual condition. The following tables are compiled from a large number of observations made before and during the administration. It will be noticed that the average experimental weights are slightly above the controls (previous weights), from the fact that this subject was steadily gaining weight during the four months he was under observation, due to his removal from town to country life.

First Experiment, 0·77 grm. per diem. Total in five days, 3·85 grm.

Results.	Body weight.	Rate of pulse.	Rate of respiration.	Temperature in mouth.	Urine volume in 24 hours.	Specific gravity.	Total urea in 24 hours.	Total purins as N.
	lb.			°F.	c.c.		grm.	grm.
Average values	119·09	61	15	97·2	1764	1012	25·8	0·34
Highest	120·50	72	18	98·1	2180	1015	30·3	0·40
Lowest	117·56	60	13	96·3	1390	1011	21·9	0·30
Control.								
Average values	118·28	64	15	97·6	1660	1014	26·8	0·31
Highest	119·75	76	17	97·9	2000	1017	27·4	0·35
Lowest	116·94	59	13	97·0	1350	1011	25·6	0·29
Second Experiment, 5·4 grm. per diem. Total in five days, 27·0 grm.								
Average values	120·00	65	15	96·8	1730	1015	28·5	0·37
Highest	121·00	74	16	97·7	2070	1017	29·6	0·42
Lowest	119·13	58	12	95·7	1600	1014	26·7	0·36
Control.								
Average values	119·72	65	14	97·5	1800	1015	30·5	0·36
Highest	121·00	75	15	98·1	2170	1017	35·2	0·39
Lowest	118·56	54	11	96·8	1650	1012	23·2	0·31

In the first experiment the dye was detected in the urine three hours after the first dose, but never occurred in any quantity, 0·017 grm. being the maximum in 24 hours. A trace persisted until the second day after the doses were omitted. Paraphenylene-diamine sulphonic acid and sulphanilic acid were not found. The urine on acidifying and then adding excess of soda became of a strong red colour, only slightly altered by again acidifying. In the second experiment this reddening with alkali after acidifying did not occur, but with the single large dose it reappeared.

In the second experiment the quantity of dye in the 24 hours' urine varied from 0·116 grm. to 0·185 grm. On

the first day after the administration had ceased the amount fell to 0·036 grm., while traces remained for two more days. No reduction products could be detected.

In the 24 hours immediately following the single dose of 10·8 grm. the urine contained only 0·250 grm., and traces on the two succeeding days. Neither paraphenylene-diamine sulphonic acid nor sulphanilic acid was present.

General Conclusions.

It does not appear that any toxic symptoms ensue in the case of mice after the administration of 1/400th part of the body weight, even when continued for four consecutive days, while human beings can take 1/10,000th part of their body weight for five consecutive days without noticeable effect, and a single dose of 10·8 grm. appears quite innocuous. From a comparison of this dose with the quantity of annatto substitute used in colouring cheese, it will be seen that more than a quarter of a ton of cheese would have to be eaten to consume the amount of the colouring matter taken by this subject in one dose.

ANNATTO.

Raw annatto is very impure and for colouring foods has to be made with the assistance of alkali into extracts, which come into the market as dark orange-brown thin syrups, strongly alkaline. The alkalinity of five commercial specimens which have been examined is as follows, calculated in the ordinary way as soda, NaOH, and also as carbonate of potash, K_2CO_3, since this is the usual alkali present.

	Percentage alkalinity, calculated as—			Percentage alkalinity, calculated as—	
	Soda, NaOH.	K_2CO_3.		Soda, NaOH.	K_2CO_3.
Sample A ...	2·56	4·41	Sample D ...	4·60	7·95
,, B ...	2·56	4·41	,, E ...	3·52	6·07
,, C ...	3·84	6·62			

Sample D had slightly the darkest colour, and Sample E differed from the others in being made with caustic alkali instead of carbonate.

Sample C was specially analysed and showed the following composition :—

Water	80·59
Colouring matter	3·17
Organic extractives...	6·05
Soluble ash, mainly potassium salts	10·12
Insoluble ash, lime and iron salts	0·07
	100·00

No preservatives were found, while dyeing and other tests showed the presence of no other pigment in any of the samples than that of natural annatto, and the small quantity of brown matter common to vegetable extracts. Bixin, the essential colouring matter of annato, is related to *m*-xylene.

Quantity of annatto commonly employed as a food colouring.—Mr. Droop Richmond, before the Departmental Committee on Preservatives and Colouring Matters, stated that an annatto extract used by the Aylesbury Dairy Company was made with carbonate of soda and contained about 15 per cent. of total solids, about 7 per cent. of sodium carbonate, and about 2 per cent. of actual colouring matter (bixin). He calculated from these figures that 100 parts of this extract are equal to about 10 of commercial annatto. The quantity added is about 1 part in 30,000 of the extract, which is equal to 1 part in 300,000 of the commercial colouring matter and 1 part in 1,500,000 of the actual pure colouring matter. (Report, p. 197.) He says further that the quantity of the solution in oil, either cotton-seed or other oil, which is added to butter, averages 1 in 1000, and thinks that if an aniline colour is used that the quantity corresponds to about 1 in 100,000. The committee were informed that cheese manufacturers in New Zealand use at times 1 oz. of annatto extract to 100 gallons of milk for the purpose of colouring the cheese (*ibid.*, p. 279). This is 1 in 16,000 in the milk, but, of course, would be more in the cheese. (The directions on the brands of the extract which I have examined work out at 1 in 960 for cheese.) Mr. Leonard Boseley's evidence was that the average amount used for colouring milk is about 1 in 300,000 of the annatto extract, and that this was insufficient to affect the flavour.

Experiments on the stability of annatto.—Tubes were mounted containing an extract of annatto diluted to 40 times its volume (equivalent in tinctorial power to 1 in 1000 annatto substitute), and exposed to air and light. The first was a solution in London tap water only; the second was inoculated with a drop of a culture of moulds and bacteria. By the twelfth day both had a surface film (possibly mycoderma) and a mouldy odour. The colour was reduced to a pale straw, and there was a small quantity of red precipitate in both tubes. Four other commercial brands gave the same results. This confirms the experience already recorded as to the fugitive character of annatto as a colouring matter, and shows that it rather favours putrefaction.

Experiments on digestive enzymes. (For details see later notes.)—Artificial digestion experiments were conducted for the purpose of determining if the presence of annatto in food had any effect on the activity of the enzymes. Four commercial extracts were used, the proportions being 1 in 4000 and 1 in 40. Various foods were employed, and experiments were done with saliva, pepsin, and pancreatin. Although the general results of this work *in vitro* tend to confirm the observations made on living subjects, it must always be remembered that the natural process of digestion is of a far more complex and perfect kind. Not only is it that the products of the enzymic actions are rapidly absorbed or undergo further changes, but the selective power of the cells of the digestive tract brings about the necessary adjustment required for complete digestion. Too much weight must therefore not be attached to experiments *in vitro*.

Experiments on Mice.

I. Three mice were fed on an unlimited diet of 5 parts of breadcrumbs and one part of white cheese, with 3 c.c. of milk daily. After they had been thus fed for 10 days their body weights were as constant as it was possible to obtain on unlimited diet.

No. 1 (all grey with no markings) and No. 3 (pied black and white) were then given annatto extract in the food, No. 2 (pied grey and white) being kept as a control. The weights before the administration were :—

—	After 12 days on mixed diet.	After 1 day on bread and cheese diet.	After 5 days.	After 10 days.
No. 1 ...	28·53 grm.	27·76 grm.	27·66 grm.	27·56 grm.
No. 2 ...	21·46 ,,	24·71 ,,	24·36 ,,	25·50 ,,
No. 3 ...	21·38 ,,	23·56 ,,	23·56 ,,	24·71 ,,

They were then given a baked cake equal to half the body weight, made of a mixture of 5 parts of flour with 1 part of grated cheese, to which, in the case of Nos. 1 and 3, was added annatto extract (neutralised with HCl), equivalent to one-fourth the body weight. No dye was added to the cake for No. 2, the control mouse.

No. of mouse.	Weight of mouse.	Weight of food.	Amount of dye.	Hours required for consumption.
1	27·56 grm.	13·8 grm.	6·9 c.c.	119
3	24·71 ,,	12·4 ,,	6·2 ,,	122
2	25·50 ,,	12·8 ,,	*Nil.*	

Weights During and After Administration.

No.	During administration.					After administration.			
	Initial weight.	End of 1st day.	End of 2nd day.	End of 4th day.	On finishing food.	1 day after.	2 days.	5 days.	7 days.
1	27·56	26·45	25·15	26·93	27·90	27·97	26·85	29·87	30·20
3	24·71	24·15	24·65	24·60	24·85	23·75*	22·62*	25·05	24·88
2	25·50	25·60	24·67	—	25·50	23·93*	22·95*	26·30	27·70

* Weighed before giving morning milk (2 c.c.).

During the whole of the experiment the mice appeared quite healthy, moved briskly, breathed naturally, and ate well. Their eyes were bright and there was neither costiveness nor diarrhœa. No staining of the ears, nose, feet, or tail could be detected. The fæces were coloured red-brown until the second day after the dyed food was finished, while traces of annatto were detected on the third day, but not afterwards.

II. As a human subject had been deeply stained by annatto, another experiment was tried with a fresh mouse, half his weight of food (8·2 grm.) and one-quarter his weight of neutralised annatto extract (4·1 grm.) being given as before. In order to avoid cooking the dyed food it was made into a cake with gelatin, so that there was very little lost in the feeding. The food was eaten in 96 hours and there was no disturbance of health. The average weights before, during, and after

the administration were 16·44, 17·26, 17·95 grm. Frequent examination failed to discover any sign of staining of the skin. The fæces were coloured dark red and a trace of annatto was present until 24 hours after the experiment.

Experiments on Human Beings.

Five distinct courses were tried on three subjects (R. S., A. S., J. W. F.). The annatto extracts used were three commercial brands, labelled C, D, and E, and the daily dose was 1/400th part of the subject's body weight—i.e., 160 c.c. for subject R. S., 158 c.c. for subject A. S., and 135 c.c. for subject J. W. F. (equivalent in colouring power to 1/10,000 of annatto substitute). Each course lasted three days, the total amount taken being 1/133rd of the body weight. In one course one dose was omitted, so that the subject took 1/153rd of his weight in the three days.

It was found necessary to nearly neutralise the extracts with hydrochloric acid, for not only was the alkali sufficient in amount to materially interfere with digestion, but it caused retching and vomiting. If diluted sufficiently to avoid this the daily dose would have been about six pints, which in itself would have had a marked diuretic action. In three of the administrations, in order to get rid of the salt formed on neutralising the alkali, the colouring matter was precipitated by a distinct excess of HCl, separated, washed to remove the free acid, evaporated on the water-bath to a thick paste and made into a cake with gelatin, so that the dye was administered in a solid yet readily soluble form.

Observations on the subject.—In every case there was staining of the skin. With the subject R. S. this was noticed within 24 hours of the first dose, the skin of the temples and neck being distinctly yellow. After 48 hours the staining was much more intense, the whites of the eyes were very strongly coloured, and there was general yellowness of the whole body and limbs, both of the covered and exposed parts. By the third day the subject had the appearance of being severely jaundiced. From this time to the end of the administration the colour gradually faded for the next five days, the last traces remaining in the whites of the eyes, from which it was practically gone on the sixth day. In this course the annatto was given as the nearly neutralised fluid extract. In a second course the gelatin cakes were given, the actual amount of colouring matter being the same in both cases. A similar staining occurred, extending as before to the whole of the skin and to the eyes and fading in the same time.

No hepatic, gastric, or other disturbances occurred, and the subject said that he felt perfectly well, though he was mentally worried lest the staining should be permanent. The following observations show there was no considerable deviation from his usual state of health:—Average values during experiment: body weight, 140·92 lb.; rate of pulse, 68; rate of respiration, 18; temperature, 97·6°. The values for the control period were: body weight, 141·15; rate of pulse, 65; respiration, 19; temperature, 97·6°.

Subject A. S.—This subject, when taking 158 c.c. = 1/400 of his body weight of annatto extract (as gelatin cake) daily, did not show any staining till 36 hours after the first dose. The eyes and the skin of the temples were first affected, but in the next 24 hours the whole of the skin was distinctly yellow. Fading commenced within 24 hours of the last dose, and in 3½ days the discolouration was scarcely perceptible even in the eyes. The subject had been previously submitted to a course of the liquid (nearly neutral) extract, but in that case the staining was very slight. In the second experiment the discolouration was less than in either of the other two subjects. This may be accounted for by the fact of his occupation being entirely out-door work. He was perfectly well during the experiment. The following figures show there was no marked disturbance of health:—Average values: body weight, 139·98 lb.; rate of pulse, 88; rate of respiration, 26; temperature, 98·3°. The corresponding figures for the control period were: body weight, 140·42 lb.; pulse, 87; respiration, 23; temperature, 98·2°.

Subject J. W. F.—The most rapid staining occurred with this subject. Within 12 hours the whites of the eyes were distinctly yellow, and in 24 hours the whole of the skin of the body and limbs, especially the chest, was of a bright yellow colour. On the third and fourth days the staining was at its height. At this time the under surface of the tongue was distinctly coloured and the subject had the appearance of a severe case of jaundice. On the fifth day (two days after the last dose) fading began, the subject regaining his natural appearance by the seventh day. In his case also there were no symptoms of any deviation from his usual condition of health. The following figures illustrate this:—Average value for administration period: body weight, 123·15 lb.; pulse-rate, 62; respirations per minute, 14; temperature, 97·3°. Average values for control period: body weight, 121·75 lb.; pulse, 61; respirations, 13; temperature, 97·5°. The reason for this subject's increase in weight has already been given.

Examination of the blood.—Shortly after the administration of the last dose of annatto, while the subjects were all deeply stained, an examination of their blood was made, a sample drawn from the finger being immediately sealed up in a blood pipette and centrifuged.

The serum from the blood of the subject J. W. F. was of a bright yellow colour, remaining distinctly yellow when diluted to five times its volume with a normal saline solution, while normal blood serum in this dilution is almost colourless. On acidifying this diluted serum with hydrochloric acid and extracting with ether the latter was coloured bright yellow. When evaporated it left a yellow residue, turning red on standing. A portion of this residue treated with a drop of concentrated sulphuric acid gave the characteristic blue of annatto. The remainder was dissolved in alcohol and ammonia and evaporated with a few white cotton fibres. These, when immersed in citric acid and dried, had a faint pink colour.

The blood of the subject A. S., also drawn 15 hours after the last dose of annatto, and examined by the same method, gave similar results, but much less marked, the dyeing of cotton not being successful.

The blood of the subject R. S. was not taken till 39 hours after the last dose of annatto. The serum treated as above did not colour ether, there was no yellow residue, and no blue produced by concentrated sulphuric acid, so that annatto was not then present in the blood in sufficient quantity to be detected by this method. As the skin was very deeply stained at the time, this suggests that the epidermic cellular elements have a high selective power for this colouring matter, and therefore soon remove it from the blood, or that the dye undergoes very rapid changes in the blood.

Examination of the urine in all the five courses of administration showed the presence of a trace, but only a trace, of the colouring matter, in every instance lasting till one or two days after the last dose had been given. There was nothing abnormal in the volume, specific gravity, amount of urea and of purin bodies in the urine throughout the experiments, the physiological range of health never being exceeded. No albuminuria or glycosuria was produced.

GENERAL CONCLUSIONS.

The results of this investigation show that egg yellow, lemon yellow, and annatto substitute when taken internally cause no physiological disturbances and are therefore harmless in the quantities used for colouring foodstuffs, since in a period of five days sufficient egg yellow was administered to colour more than half a ton of custard, sufficient lemon yellow to colour 3000 gallons of lemonade, and sufficient annatto substitute to colour more than 12½ cwt. of cheese. It does not appear that any harmful decomposition products are produced, otherwise symptoms depending on these products would have occurred in the subjects.

It was not possible to carry this investigation far enough to completely determine in what way the system disposes of the colouring matter. That much passed unchanged into the fæces, that a small quantity of unchanged dye and some reduction products were eliminated by the kidneys was proved, but to make the evidence in this respect more complete would require the research to be based upon different lines from those adopted for determining whether the substances were toxic or not.

The experiments on (natural) annatto show that a considerable quantity of the colouring matter is absorbed and exists as such in the blood, from which it is capable of being transferred at least to the skin and probably to many other tissues of the body. No apparent harm, however, followed the administration of large quantities for short periods.

TESTS OF THE DYES AS TO FREEDOM FROM METALLIC CONTAMINATION.

Very delicate tests of the dyes for arsenic, lead, and other metals gave the following results:—

—	Lemon yellow (tartrazine).	Egg yellow (acid yellow).	Acid brown No. 1.
Arsenic	Absent.	Very faint trace.	0·5 part per million.
Lead	,,	Absent.	0·006 per cent.
Copper, tin, zinc	,,	,,	Absent.

Since the colouring matter only forms a small proportion of the food-stuff in which it is employed the very minute traces of arsenic and lead found in the acid brown No. 1 (which itself forms only part of the annatto substitute), will have to be divided by some hundreds, and therefore will be far beyond the limits of physiological effect.

The importance of these figures is shown by the evidence given before the Departmental Committee on Food Preservatives and Colouring Matters, 1901, that the injurious effects formerly reported were due to the dyes having contained arsenic or other poisonous metals, from which they

are now free. The Committee also stated as to the practice in other countries that:—

1. In Austria-Hungary from 1895 aniline dyes which do not contain arsenic are permitted to be used in sweetmeats, liquors, &c., specimens of such colours to be yearly submitted to official examination (p. 269).
2. In the Netherlands certain of these dyes are classed among harmless materials provided that the aniline is free from arsenic (p. 271).
3. In the United States there is no absolute prohibition of any colouring matter which has no marked toxic character (p. 275).
4. Queensland allows as non-poisonous colouring matter some of the aniline dyes "when pure and free from arsenic" (p. 276).

NOTES ON ARTIFICIAL DIGESTION.

In the starch digestions with arrowroot and maize starch 10 grm. of the starch were boiled with a litre of water and strained so as to give a uniform mucilage of 1 per cent. strength.

In the pancreatic digestions 0·2 grm. of pancreatin was used in each with 0·2 grm. of $NaHCO_3$. The pancreatin was Parke, Davis's preparation.

The pepsin digestions were conducted in the presence of 0·2 per cent. of *real* HCl. In the first series the pepsin used was a powder described as "Pepsin pulv. B.P." In the second Parke, Davis's scale preparation was used as it was found to be much more active.

The experiments were conducted at a constant temperature of 38° C., and the volumes in each case were 100 c.c. The time of digestion was regulated by the appearance of the blank.

As shown in a series of tabulated results, in by far the majority of cases the dyes produced no interference with the various digestive processes, the substances employed in the experiments being arrowroot, maize, fibrin, white of egg, bread, and casein.

NOTES ON BEHAVIOUR OF THE DYES DURING DIGESTION.

A question arose whether the dyes were decomposed by the natural digestive ferments so as to yield any secondary products which might be objectionable. In order to solve this the three dyes in the strength of 1 in 1000 were added to a mixture representing a meal, which was then subjected at body temperature—38° C.—successively to (1) salivary, (2) peptic or gastric, (3) pancreatic or duodenal, with biliary digestion, samples being examined at the three stages. The quantities were adjusted to be in the common relation of proteids, carbohydrates, and fats in ordinary feeding, as adopted in the dietary of the experiments on human subjects.

A uniform comminuted mixture was made in the following proportions: 150 grm. bread, 30 grm. lean cooked meat, 18 grm. butter, 36 grm. cooked cabbage. 22 grm. of this mixture were placed in each of nine bottles, and to each were added 14 c.c. of made tea and 14 c.c. of water containing 0·05 grm. of the respective dyes. The total volume was now 50 c.c. and the proportion of dye was 1 in 1000. Nos. 1, 4, and 7 contained A.S. (annatto substitute), Nos. 2, 5, and 8 had E.Y. (egg yellow), and Nos. 3, 6, and 9 had L.Y. (lemon-yellow). To each were added 11 c.c. of saliva, and they were all incubated for 45 minutes at 38° C. with frequent agitation. Then Nos. 1, 2, and 3 were removed, and represented salivary digestion only with each dye. To the remaining six were added 0·5 grm. scale pepsin and 5 c.c. of a diluted hydrochloric acid containing 0·1 grm. real HCl, and the incubation and shaking were continued for two more hours. Nos. 4, 5, and 6, representing salivary *plus* peptic digestion, were now removed. To each of the three remaining were added 10 c.c. of a 2 per cent. pancreatic solution, 0·5 c.c. of bile, and sodium carbonate till just alkaline, and the incubation and agitation were continued for two hours longer. Immediately on removal the samples were diluted with their own volume of water, filtered, and the filtrate titrated colorimetrically for the amount of dye that had remained in solution, and also for secondary products.

No secondary products, paraphenyline-diamine or sulphanilic acid, could be detected at any stage. The fibres were in each case dyed, the meat retaining the most and the vegetable tissue and gluten of the bread absorbing a distinct but less amount of the colour. It was found that in salivary digestion the mucus of the saliva retained a good deal of the pigment, the amount remaining in solution being, with annatto substitute, 25·3 per cent.; with egg yellow, 39·4 per cent.; and with lemon yellow, 51·2 per cent. The precipitated portion seems to have been partially redigested in the second or pepsin stage, as the quantity of dye in solution was 25·9 per cent. with annatto substitute, 53·4 per cent. with egg yellow, and 84·2 per cent. with lemon yellow. In the third or pancreatic stage the amount could not be exactly determined on account of the interference of the bile pigments. It was approximately 28 per cent. with annatto substitute and 59 per cent. with egg yellow.

I have to thank Mr. J. H. Bertolacci and Mr. J. W. Flint, B.A., for assistance in carrying out this investigation.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Extension of Dental Treatment: Ultimate Cost per Case.

SUBCOMMITTEES of the Education Committee of the London County Council have had under consideration for some months a scheme for the establishment of dental treatment in Wandsworth through the agency of the local committee of medical practitioners which already undertakes the treatment of other ailments of school children on behalf of the Council. The Finance Committee of the Council has delayed the completion of the scheme pending the consideration of various points relative to cost. From a report presented by the Children's Care Subcommittee to the Education Committee on May 31st it appeared that the Finance Committee objected because the expenditure, based on a total of 1500 children, worked out at over 8*s.* per child, six cases being dealt with each session, whereas the cost of the two schemes already established at Poplar and Deptford was estimated at 4*s.* 3*d.* a case on the basis of ten cases a session. In the Wandsworth scheme provision was made for the employment of an anæsthetist on one half day a week, and of a nurse on six half days, although no such arrangement was proposed in the earlier schemes. The Finance Committee asked for an explanation of the necessity for the increased requirements in Wandsworth and to be informed whether it was proposed to employ an anæsthetist and a nurse at Poplar and Deptford and in connexion with any future arrangements for dental treatment that might be made. The cost of dental treatment had increased with each of the three proposals put forward up to the present, and the Finance Committee asked for the fullest information—whether the present case was exceptional or might be regarded as indicating the standard of expenditure upon dental treatment in the future.

In dealing with these points the Children's Care Subcommittee emphasised the fact that owing to the meagre information available for the guidance of the Council the earlier schemes were brought forward purely as experiments, and the possibility of subsequent modification being necessary was made clear. The estimate that ten cases a session could be dealt with was made upon the best information then available. The amount of work, however, varied considerably in each case, and the dentists already engaged found that they were unable to put the children's mouths in sound condition if they were expected to deal with an average of as many as ten cases a session in addition to those cases needing two or more attendances. After a system of dental treatment had been established permanently for some time the condition of the children's mouths would almost certainly improve, with the result that much less work per child would be required. But for the present eight new cases a session should be regarded as the maximum number to be dealt with, ten being a reasonable number later on when the work was established on a permanent basis. The agreement with the committee of Wandsworth medical practitioners provided that from six to eight new cases a session should be taken, and the estimate of cost submitted to the Finance Committee was based on the assumption that the lower number would attend owing to the fact that, as parents did not yet fully recognise the need for dental treatment, there might be some difficulty at first in securing that full advantage was taken of the facilities afforded. Endeavours would be made, however, to maintain a standard of eight new cases a session, which would reduce the estimated average cost. As to the employment of an anæsthetist, it must be remembered that although the neglect of teeth was a serious detriment to health, there was considerable prejudice against treatment, and painful extractions were likely to prevent children from completing treatment. The subcommittee understood that, in difficult cases, an anæsthetic might be necessary, but upon reconsidering the question it had decided that cases of this nature should not be dealt with at dental treatment centres, but should be referred to hospitals. The subcommittee therefore withdrew the proposal to appoint an anæsthetist. With regard to the employment of a nurse, in the earlier schemes for dental treatment a capitation payment of 2*s.* was considered sufficient because the nursing staff was employed in

other work connected with medical treatment. The capitation payment of 2*s.* did not cover the expense of nurses, who had to be specially engaged. Apparatus also would have to be purchased specially when the Council made use of institutions not already equipped for the work, as was the case at Deptford and Poplar. With the modifications outlined, the cost of the Wandsworth scheme would be reduced from 8*s.* to 5*s.* 4*d.* a case, and this might be regarded as representing the maximum cost involved in making any further provision for dental treatment.

The Education Committee approved an agreement with the committee of Wandsworth medical practitioners, which provided *inter alia* that treatment should take place on not more than six half days per week of children from 6 to 8 years of age, and, in special cases, of children of other ages, a payment of £50 per annum to be made by the Council for each dentist working one half day a week and a capitation fee of 2*s.* on the number of cases actually referred for treatment to be accepted by the local committee in full discharge of the expense incurred by them, the Council to appoint one dentist working on one half day a week for the purpose of dental inspection in the Wandsworth schools and the selection of children for treatment, and the committee of medical practitioners to be limited to the appointment of not more than three dentists, who should be selected by the British Dental Association.

Local Clinics reported "Very Satisfactory."

The Children's Care Subcommittee also reported that although it was not yet in a position to submit a complete scheme for the medical treatment of elementary school children, it was necessary that the question of extending some of the agreements beyond the present year should be considered. Amongst these were the agreements entered into with committees of local medical practitioners in Norwood and Wandsworth. The subcommittee was informed that the arrangements had worked very satisfactorily and that there was need for further provision for medical treatment in those districts. The present scheme at Norwood provided for the treatment of 500 ear, nose, and throat cases, 800 eye cases, and 200 ringworm cases a year, upon which the Council had guaranteed, in addition to the salaries of the medical men, a total capitation payment amounting to over £200. In view of the provisional consent of the Board of Education to the extension of agreements for treatment until a common date—Dec. 31st next—the subcommittee advised that the arrangements with the Norwood medical committee should continue as at present until that date, but that afterwards, subject to the consent of the Board of Education, it should be renewed upon a permanent basis and should provide for the treatment annually of 1320 ear, nose, and throat cases, 400 eye cases, and 100 ringworm cases, it being understood that if and when necessary 200 ringworm cases would be treated in a year.

As to the Wandsworth scheme provision had been made for the treatment of 500 ear, nose, and throat cases, 900 eye cases, and 100 ringworm cases a year, and a capitation payment of £150, exclusive of ringworm cases, had been guaranteed. Arrangements had been made for ringworm cases to be treated at the surgery of one of the medical men at an inclusive fee of £1 1*s.* a case. This agreement should also be varied to secure that 1760 ear, nose, and throat cases, and 440 eye cases should be treated in each year, and that the maximum number treated for ringworm yearly should not exceed 150. Both schemes at present provided for the employment of a nurse on six half days a week to assist the medical men, and the subcommittee had come to the conclusion that the nurses should work full time in order to enable them to assist in "following up" and keeping teachers, local care committees and medical men in touch with one another. Under these arrangements the Norwood scheme would cost £626 and the Wandsworth scheme £817.

The Education Committee agreed to renew the agreements on a yearly basis on the terms set forth by the subcommittee.

Medical Treatment in Outlying Districts.

An offer by the Western Ophthalmic Hospital, Marylebone-road, to enter into an agreement with the Council for the medical treatment of school children has been declined on the ground that the requirements of the district will be best met by the establishment of two medical treatment centres which, with St. Mary's Hospital, where the Council's scheme is already in operation, will include the area served by the Western Ophthalmic Hospital. An offer by the Home and Infirmary for Sick Children, Lower Sydenham, to coöperate with the Council in the establishment of a school clinic has also been declined on the ground that arrangements already made or about to be made for medical treatment in the district will prove equal to the requirements.

The Health of School Children.

The recent epidemic of measles, according to a quarterly report on the health of elementary school children issued by the Education Committee, involved 508 schools, a great number of unprotected children of all ages being excluded from attendance for varying periods. Four schools had been under observation for diphtheria and 82 schools for scarlet fever. Eleven cases of small-pox occurred amongst the scholars during the spring term. In the same period 903 schools were visited by the school medical officers, who inspected 131,385 children; of these, 48,494, not including dental cases, were found to be suffering from various ailments, 28,826 of these being cases which were included in the Council's scheme for medical treatment. Of this number treatment was actually provided by the Council for 6920 cases, but it must be borne in mind (said the Education Committee by way of comment) that the Council's facilities did not exist at present in all districts of London. A considerable percentage of the remaining cases obtained treatment independently of the Council's arrangements.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on June 8th, Mr. BUTLIN, the President, being in the chair.

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship, and it stated that at the recent examination 134 candidates were examined, of whom 38 passed and 96 were rejected.

A report was read from the Court of Examiners concerning the recent final examination for the Fellowship, and it stated that 69 candidates were examined and 33 passed, while 36 were rejected. In accordance with this report diplomas of Fellowship were awarded to 31 successful candidates, two being still under the age of 25 years.

In accordance with a report from the Board of Examiners in Dental Surgery, diplomas of the Licence in Dental Surgery were awarded to 44 successful candidates. On a report from the same board the Council decided to grant provisional recognition to the dental department of the London Hospital Medical School, subject to certain conditions.

The following examiners were appointed:—Examining Board in England: Anatomy, W. H. C. Greene, A. Robinson, and W. Wright; Physiology, B. Moore and E. H. Starling. First Fellowship Examination: Anatomy, C. H. Fagge, F. G. Parsons, J. Sherren, and A. Thomson; Physiology, G. A. Buckmaster, E. W. W. Carlier, H. W. Lyle, and C. F. Myers-Ward. Examining Board in England: Midwifery, W. B. Bell, G. F. Blacker, H. J. M. Playfair, and J. A. Targett. Diploma in Public Health, Part I.: R. T. Hewlett; Part II.: R. D. Sweeting. The Council also elected Mr. R. Lawford Knaggs and Mr. Jonathan Hutchinson members of the Court of Examiners, and Mr. W. H. Eyre was elected Examiner in Bacteriology and Dr. C. W. Daniels Examiner in Medicine for the Diploma in Tropical Medicine.

The President was appointed Hunterian Professor to give two lectures on Cancer in October next.

A letter was read from Mr. Arthur H. Cheatle, who was recently appointed by the Council to rearrange the ear specimens in the museum, advising that the Toynbee collection in the museum should be left undisturbed, and offering to present to the College several hundred specimens of his own, demonstrating the surgical anatomy of the temporal bone throughout life and the pathology of ear disease, to form the basis of a new collection. It was resolved that Mr. Cheatle's offer be accepted, and the best thanks of the Council be given to him for his valuable gift.

A letter was read from Mr. C. T. Dent, stating that he had attended numerous meetings of the Medical Scales Committee of the Board of Trade, and that the whole of the

scales, medicines, medical stores, and instruments for merchant ships and North Atlantic emigrant ships have been carefully revised by the committee and numerous alterations made. It was resolved that the best thanks of the Council be given to Mr. Dent for his services on the committee.

A letter was read from Sir Henry Morris, reporting the proceedings of the General Medical Council at its recent session, and the best thanks of the Council were given to him for his services as the representative of the College on the General Medical Council.

A letter was read from Dr. Mackenzie Johnston, secretary of the Royal College of Surgeons of Edinburgh, enclosing a copy of a letter on the subject of the National Insurance Bill addressed by that College to the Prime Minister and Chancellor of the Exchequer, and reporting that the following resolution was also unanimously carried:—

That the College remit to the Council to appoint a committee to consider the Bill, and give the Council power to take any action that may be necessary in conjunction with other corporations or otherwise.

It was resolved—

That Dr. Mackenzie Johnston be thanked for his communication, and that a copy of the letter addressed by this College to the Chancellor of the Exchequer be sent to him.

ELECTION OF TWO MEMBERS OF COUNCIL.

The election of two members of Council will take place at a meeting of Fellows to be held on July 6th. Mr. Dent and Mr. Makins, whose terms of office have expired, will submit themselves for re-election, and a third candidate, Mr. B. G. A. Moynihan of Leeds, is announced.

THE NATIONAL INSURANCE BILL.

WE give below, as on previous occasions, a brief summary of some of the expressions of opinion on the Bill which have reached us. Other and similar notes will be found in the communications from special correspondents. The solidarity of the opposition of the British Medical Association to the Bill is growing.

Pharmacists and the National Insurance Bill.

The position of pharmacists under the proposed National Insurance Scheme, which was commented upon in THE LANCET of May 20th, has during the past few weeks been considered by special meetings in all parts of the country, at which resolutions have been passed calling upon the Chancellor of the Exchequer to make certain amendments in the Bill. The matter has also received the attention of a committee appointed by the council of the Pharmaceutical Society, and a deputation arranged by the council has waited upon the Chancellor of the Exchequer. Further, Mr. W. S. Glyn-Jones, M.P., the Pharmaceutical Society's Parliamentary secretary, and Professor H. G. Greenish have, at the request of the council, paid a visit to Germany, Austria, and Italy, in which countries they have investigated the conditions governing the supply of medicines to State insured persons and to members of sick societies and similar bodies. It is evident, therefore, that pharmacists realise the gravity of the situation and are endeavouring to avert the dangers threatened by the Bill in its present form. The principles which they wish to have embodied in the Bill were explained to the Chancellor by the deputation and are as follows:—

(1) The dispensing of medicines for State insured persons should be done under the direct supervision of a pharmacist and no agreement for the supply of medicines should be made except with those who are entitled to carry on business as chemists; (2) the control of the pharmaceutical service should be in the hands of local health committees; (3) the remuneration should be on a scale system; (4) insured persons should have a free choice of pharmacists; (5) pharmaceutical benefits should not be extended to persons earning more than £160 a year; and (6) pharmacy should be represented on health committees or on the Advisory Committee or the Insurance Commission.

The Chancellor promised to consider these points and expressed the opinion that the operation of the proposed scheme would improve the position of pharmacists. Notwithstanding these assurances pharmacists will not be satisfied until the principles they desire to be established are embodied in the Bill.

London and Counties Medical Protection Society.

The annual general meeting of this society was held at St. James's Vestry Hall, Piccadilly, London, on June 8th, with the Treasurer and Chairman of Council, Dr. G. A. Heron, in the chair. The National Insurance Bill was commented upon by the chairman in the course of his remarks in moving the adoption of the annual report, whose gist was given in THE LANCET on June 3rd. Dr. Heron said that they were all agreed that the evidence which had accumulated now concerning the measure of national insurance was such as to make them quite clear on two points. The first was that the medical profession heartily sympathised with the principle of the Bill. He did not think there had been a discordant voice anywhere in the profession with regard to the value of the principle of the Bill. He did not think there was any doubt that the medical profession was equally unanimous in stating that they would not act under the Bill as it now stood. Unless certain material alterations were made they would not have anything to do with the Bill. It might become an Act of Parliament, but after that was so the Bill had to be made to work, and it could not work without the cordial help of the medical profession.

Birmingham.

The largest meeting of local medical men probably ever held in Birmingham was that convened by the Central division of the Birmingham branch of the British Medical Association for June 2nd. It was presided over by Mr. Frank Marsh, and Mr. J. Neal, the representative of the branch, gave an able *résumé* of the proceedings of the meeting of representatives in London on the two previous days. The following resolution, proposed by Mr. Neal and seconded by Mr. A. Oakes, one of the oldest practitioners in the city, was unanimously passed with much applause:—

That whilst approving the main objects of the Bill, and being desirous of coöperating for their attainment, in view of the fact that the present proposals of the Government are unsatisfactory, it is the opinion of this meeting that the Government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession.

It was also decided that the following concessions were regarded as the minimum with which they could take office under the service: (1) An income (not wage) limit of £2 a week for those entitled to medical benefits; (2) free choice of doctor subject to consent of the doctor to attend; (3) that the medical and maternity benefits should be administered through the local committees and not by friendly societies; (4) adequate remuneration; (5) adequate representation of the profession upon the Insurance Commissions, Advisory Committees, and the Local Health Committees; and (6) that the method of remuneration should be decided in each district by the local profession.

Windsor.

A meeting of the medical men of Windsor and the surrounding district was held in the board-room of King Edward VII. Hospital, Windsor, on June 7th, 25 practitioners being present. The chair was taken by Mr. W. B. Holderness, J.P., of Windsor, and among the resolutions unanimously adopted were the following:—

1. That it is essential that patients each and all must have free choice of their medical attendant as far as practicable.
2. That the appointment of surgeons must not be in the hands of the friendly societies.
3. That it is much to be desired that payment should be made for services rendered and not by capitation fees.
4. That in the event of payment by capitation fees being finally arranged, the fees proposed are totally inadequate, even if the distances are strictly limited.
5. That an income limit of £2 a week should be fixed for those entitled to medical benefits.
6. That this meeting is of opinion that special services, such as attendance on fractures, dislocations, &c., together with all night work, should receive special remuneration, and that all necessary appliances should be paid for.

BRITISH MEDICAL BENEVOLENT FUND.

AT the May meeting of the committee of the above fund 18 cases were considered, and grants amounting to £144 made to 14 of the applicants. Appended is an abstract of the cases relieved:—

Daughter, aged 61, of late F.R.C.S. Has maintained herself for 35 years by nursing, but small savings have been spent in assisting relations, and she is now obliged to resign her post on account of ill-health. Voted £12.

Widow, aged 62, of L.F.P.S. Glasg. Quite unprovided for at husband's death; endeavours to support herself and a daughter in feeble health by selling sweets on commission. Relieved three times, £48. Voted £10.

Widow, aged 62, of M.R.C.S. Dependent on letting lodgings and slight help from a son. Relieved five times, £70. Voted £10.

Widow, aged 50, of M.R.C.S., L.S.A. Lives rent free as a caretaker and earns a little by needlework. Relieved nine times, £95. Voted £9.

Daughter, aged 56, of late M.R.C.S. Income £15 a year; sight very bad. Voted £5.

Widow, aged 53, of M.R.C.S. Assisted her husband during a period of ill-health and supported herself and son many years after his death by taking mental cases, but has recently been unable to obtain any and is consequently in temporary difficulties. Voted £10.

Widow, aged 53, of M.R.C.S., L.R.C.P. Has just enough to exist on herself, but asks for help on account of the unavoidable expenses of a daughter's illness. Voted £5.

Widow, aged 51, of M.B., C.M. Glasg. Was moderately provided for at husband's death a few years ago, but lost most of her capital through the defalcations of a solicitor. Tries to support herself by taking a resident patient. Voted £10.

Widow, aged 46, of L.R.C.P., L.R.C.S. Edin. Husband's savings exhausted by a five years' illness ending in death, and the proceeds of his insurance policy entirely lost through the failure of a bank. Four children, barely self-supporting. Takes boarders, but at present only has one, and is unavoidably in arrears with her rent. Voted £10.

M.B., C.M. Glasg., aged 40. Spent all his capital in an unsuccessful endeavour to establish a practice in Scotland, and is now quite incapacitated by phthisis. Has several young children. Voted £18.

L.R.C.P., L.R.C.S. Edin., aged 51. Used to have a flourishing practice but was obliged to have one eye enucleated and is now totally blind in the other. Only income is derived from boarders. Five children, aged 16 to 11. Relieved three times, £54. Voted £18.

Daughter, aged 56, of L.F.P.S. Glasg. Lives with a sister rent free in a house which belonged to the father, and receives £10 a year from the Scottish Indigent Gentlewomen's Fund. Relieved four times, £48. Voted £12.

Widow, aged 57, of M.R.C.S., L.R.C.P. Only provision a small annuity, and has been obliged to incur heavy expenses on account of a chronic complaint. Two children, aged 16 and 14. Relieved seven times, £89. Voted £5.

Widow, aged 55, of L.R.C.P. Edin. Quite unprovided for at husband's death a few years ago and dependent on a son earning a small weekly wage. Relieved once, £10. Voted £10

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 77 of the largest English towns 7092 births and 3775 deaths were registered during the week ending June 10th. Based on the results of the recent Census, so far as they are at present available, the estimated population of these 77 towns in the middle of this year is 16 257,983. The annual rate of mortality in these towns, calculated on this revised estimate, which had been equal to 13·3 and 13·0 per 1000 in the two preceding weeks, further declined to 12·2 in the week under notice, and was lower than in any previous week of this year. During the first ten weeks of the current quarter the annual rate in these towns averaged 14·5 per 1000. The annual reported death-rates last week in the 77 towns ranged from 2·8 in Handsworth, 4·3 in Burton-on-Trent, and 5·2 in Brighton, to 17·8 in Huddersfield, 18·4 in Stoke-on-Trent, and 18·8 in Middlesbrough. The 3775 deaths from all causes in the 77 towns last week showed a further decline of 264 from the numbers in recent weeks, and included 341 which were referred to the principal epidemic diseases, against 366 and 317 in the two preceding weeks. Of these 341 deaths, 125 resulted from measles, 81 from whooping-cough, 80 from diarrhœa, 37 from diphtheria, 14 from scarlet fever, and 4 from enteric fever, but not one from small-pox. The mean annual rate from these epidemic diseases in the 77 towns last week was equal to 1·1 per 1000, against 1·2 and 1·0 in the two previous weeks. The fatal cases of measles in the 77 towns, which had been 153 and 119 in the two preceding weeks, rose again to 125 last week; the highest annual death-rates from this disease recorded last week in these towns were 1·9 in Great Yarmouth and South Shields, 2·1 in Reading, and 2·2 in Smethwick. The deaths from whooping-cough, which had declined in the seven preceding weeks from 134 to 76, rose again last week to 81; they caused annual rates equal to 1·5 in Smethwick and in Burnley, and to 2·0 in Middlesbrough. Under the influence of the continued high temperature, the deaths of children under two years of age attributed to diarrhœa further rose last week to 80. The deaths referred to diphtheria, which had been 42 and 26 in the two previous weeks, rose again to 37 last week; they included 18 in London and its suburban districts, 3 in Gateshead, and 2 both in Leeds and Birkenhead. The 14 fatal cases of scarlet fever corresponded with the low number in the previous week; 2 each were recorded in Liverpool, Birmingham, and Coventry. The 4 deaths referred to enteric fever showed a further decline from the numbers in recent weeks, and were fewer than in any previous week of this year. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had increased in the eight preceding weeks from 982 to 1140, had further risen to 1141 at the end of last week; 152 new cases of this disease were admitted to these hospitals during last week, against 158 and 185 in the two previous weeks. These hospitals also contained 808 cases of diphtheria, 518 of measles, 304 of whooping-cough, 39 of enteric fever, and 5 of small-pox on Saturday last. The 1002 deaths from all causes in London last week showed a further decline from recent weekly numbers, and included 141 which were referred to diseases of the respiratory system, against 173, 153, and 134 in the three preceding weeks; only 3 deaths were directly referred to influenza. The deaths attributed to different forms of violence in the 77 towns, which had been 177 and 175 in the two previous weeks, were 172 last week, and 324 inquest cases were registered. The causes of 24, or 0·6 per cent., of the deaths registered in the 77 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death last week were duly certified in Leeds, Bristol, West Ham, Hull, Newcastle-on-Tyne, Nottingham, and in 56 other smaller towns; the 24 uncertified causes of death in the 77 towns last week included 4 in Liverpool, 4 in Birmingham, and 4 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons (based on the recent Census enumeration), 922 births and 489 deaths were registered during the week ending June 10th. The annual rate of mortality in these towns, which had been equal to 17·7 and 16·9 per 1000 in the two preceding weeks, further declined to 14·9 in the week under notice. During the first ten weeks of the current quarter the annual rate in these towns averaged 17·6 per 1000 of the revised estimate of their population, and exceeded by 3·1 the revised mean rate during the same period in the 77 large English towns. The annual death-rate last week in the eight Scotch towns ranged from 10·9 and 11·4 in Aberdeen and Dundee, to 16·0 in Perth and 16·1 in Glasgow. The 489 deaths from all causes in the eight towns last week showed a further decrease of 65 from the numbers returned in recent weeks, and included 56 which were referred to the principal epidemic diseases, against 67 in each of the two preceding weeks; of these 56 deaths, 32 resulted from whooping-cough, 10 from measles, 6 from diphtheria, 5 from diarrhœa, 2 from enteric fever, and 1 from scarlet fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases in the eight towns last week was equal to 1·7 per 1000, exceeding by 0·6 the mean rate from the same diseases in the 77 English towns. The fatal cases of whooping-cough in the eight towns, which in the three preceding weeks had been 49, 37, and 43, declined last week to 32; they included 21 in Glasgow, 5 in Edinburgh, 3 in Aberdeen, and 2 in Greenock. The 10 deaths from measles showed a further decline from the numbers in recent weeks; 9 were recorded in Glasgow. Of the 5 deaths from diarrhœa, fewer than in any recent week, 4 were of infants under two years of age, of which 2 occurred in Glasgow. The 6 fatal cases of diphtheria exceeded the low numbers in recent weeks, including 3 in Glasgow. Of the 2 deaths referred to enteric fever, one each was returned in Paisley and Greenock; and the only fatal case of scarlet fever occurred in Edinburgh. The deaths referred to diseases of the respiratory system in the eight towns, which had been 78 and 76 in the two previous weeks, further declined last week to 52, and were 15 below the number in the corresponding week of last year. Of the 489 deaths from all causes in the eight towns last week, 166, or 34 per cent., were recorded in public institutions, and 13 were attributed to different forms of violence. The causes of 8, or 1·7 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 77 English towns last week the proportion of uncertified causes of death did not exceed 0·6 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,149,495 persons (based on the numbers enumerated at the recent Census), 583 births and 354 deaths were registered during the week ending June 10th. The annual rate of mortality in these towns, which had been equal to 16·1, 16·5, and 17·1 per 1000 in the three preceding weeks, further declined to 16·1 in the week under notice. During the first ten weeks of the current quarter the annual death-rate in these towns averaged 18·7 per 1000; the mean rate during the same period in the 77 English towns did not exceed 14·5, and in the eight Scotch towns 17·6 per 1000. The annual death-rate during the week under notice in the 22 Irish towns was equal to 18·3 in Dublin (against 11·6 in London), 15·5 in Belfast, 15·0 in Cork, 23·7 in Londonderry, 8·1 in Limerick, and 13·3 in Waterford. The 354 deaths from all causes in the 22 towns last week showed a further decline of 28 from the numbers returned in recent weeks, and included 21 which were referred to the principal epidemic diseases, against 28 and 29 in the two preceding weeks; these 21 deaths were equal to an annual rate of 1·0 per 1000, which was slightly below the mean rate from the same diseases in the 77 English towns. Of these 21 deaths from the principal epidemic diseases in the Irish towns last week, 7 resulted from diarrhœa, 6 from diphtheria, 4 from measles, 2 from scarlet fever, and 1 each from whooping-cough and enteric fever, but not one from small-pox. The 7 deaths attributed to diarrhœa showed a considerable decline from the number in the previous week, 6 being of infants under two years of age; 3 were recorded in Belfast. The 6 fatal cases of diphtheria included 4 in Dublin and one each in Belfast and Wexford. All the 4 deaths from measles, the 2 from scarlet fever, and the fatal case of whooping-cough occurred in Dublin. The death referred to enteric fever was registered in Dundalk. The deaths referred to diseases of the respiratory system in the 22 towns, which had been 48 and 66 in the two previous weeks, were 64 last week. Of the 354 deaths from all causes last week, 113, or 32 per cent., were recorded in public institutions, and 7 were referred to different forms of violence. The causes of 10, or 2·8 per cent., of the deaths in the 22 towns last week were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes of death in the week under notice did not exceed 0·6 per cent. in the 77 largest English towns, and was equal to 1·7 per cent. in the eight principal Scotch towns.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: J. Boyan, to the *Proserpine;* L. E. Dartnell, to the *Arrogant*, on commissioning; and P. Garnons Williams, to the *Blanche*. Surgeons: W. Mearns, to the *Pembroke;* and J. S. Austin, to the *Victory*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Wilfred B. Thomson is placed on retired pay (dated June 7th, 1911).

Captain Harold T. Treves resigns his commission (dated June 10th, 1911).

TERRITORIAL FORCE.

Royal Army Medical Corps.

South Eastern Mounted Brigade Field Ambulance, Royal Army Medical Corps: Joseph Ernest Ryan to be Lieutenant (dated Feb. 1st, 1911).

2nd South Midland Mounted Brigade Field Ambulance, Royal Army Medical Corps: Lieutenant Douglas W. A. Bull resigns his commission (dated June 10th, 1911).

3rd North Midland Field Ambulance, Royal Army Medical Corps: Lieutenant Andrew Edward Hodder, from the List of Officers attached to Units other than Medical Units, to be Lieutenant, ceasing to serve with No. 18 Field Ambulance, Royal Army Medical Corps, Special Reserve (dated April 5th, 1911).

1st Wessex Field Ambulance, Royal Army Medical Corps: Langford George Davies to be Lieutenant (dated March 13th, 1911).

Attached to Units other than Medical Units.—Lieutenant-Colonel William Nettle resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated June 10th, 1911). Lieutenant John E. Phillips resigns his commission (dated June 10th, 1911).

DEATHS IN THE SERVICES.

Lieutenant Arthur de Courcy Cranstoun Charles, I.M.S., on April 7th, at the Albert Victor Hospital, Lahore. He received his first commission in 1908. Lieutenant Charles was officiating medical officer of the 28th Punjabis and was a nephew of Sir Havelock Charles. The funeral took place at Lahore and was attended by His Honour the Lieutenant-Governor of the Punjab, officers of the Indian Medical Service in the station, and British and Indian officers of the 28th Punjabis.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

A Statistical Study of Anti-Enteric Inoculation is the subject of a communication to the June issue of the *Journal of the Royal Army Medical Corps*, in which Brevet-Colonel R. H. Firth inquires into the relation between two facts (1) that within the last two or three years the incidence of enteric fever among European troops serving in India has diminished; and (2) that during the same period the number of soldiers inoculated against enteric fever has increased. After examining the statistical data, he shows that the case for anti-enteric inoculation is a strong one, whether we consider it from the point of view of freedom from attack or of recovery after attack, and that in inoculation we have a valuable asset for both the prevention and control of enteric fever among European troops serving in India, though it is not the sole asset nor the only cause of the notable reduction, which is also due to the development of preventive measures on other lines. He concludes: "It cannot be too emphatically stated that at no time in the history of our army, nor in that of any other army, has there been a finer or more brilliant achievement in the reduction of sickness, inefficiency, and death from the scourge of armies than can be read between the lines of the prosaic figures. ..... Initiated by Sir Almroth Wright, inoculation has been steadily developed and pressed, concurrent with other measures, by officers of all ranks in the Royal Army Medical Corps. The result is that for 1910 the admission-rate and death-rate from enterica among European troops in India stands at 4·6 and 0·63 per mille. To him and to them be the credit. *Prosit!*" Captain P. S. Lelean continues his article on Incineration in the Field, and Major C. E. P. Fowler has an interesting note on Malarial Fever in Gibraltar, while Mr. E. H. Ross, late health officer at Port Said, deals with the subject of the elimination of Malta fever from Port Said.

ST. JOHN AMBULANCE BRIGADE AND THE CORONATION.

The St. John Ambulance Brigade will provide some 1750 men and nursing sisters on Coronation Day, and on June 23rd 2616. On June 29th, when the King and Queen attend the Thanksgiving Service at St. Paul's Cathedral, 623 men and nursing sisters will be employed. On June 22nd 64 ambulance stations will be provided along the line of route, and for the following day some 120 stations have been selected. A generous friend has given 50,000 paper cups for the purpose of supplying, in necessitous cases, fresh water to persons in the crowds who may be suffering from heat or faintness.

THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

Colonel Sir James Richardson Andrew Clark, Bart., C.B., R.A.M.C. (Mil.), has been promoted from Knight of Grace to Knight of Justice of the Order of the Hospital of St. John of Jerusalem in England.

The dinner of the Royal Army Medical Corps, Territorial Force, 1st and 2nd London Divisions, will be held on Monday, June 26th, at the Connaught Rooms, Great Queen-street, W.C. Communications should be made to Major E. M. Callender, 47, Connaught-square, Hyde Park, W.

THE CARE OF THE FEEBLE-MINDED.—The Poole (Dorset) board of guardians has formulated a scheme for erecting an institution at Poole capable of receiving 200 feeble-minded patients. It is thought that if a charge of 10*s.* a week is made for each the building will be self-supporting. If the consent of the Local Government Board can be obtained it is understood that the scheme will be proceeded with.

Correspondence.

"Audi alteram partem."

THE NATIONAL INSURANCE BILL.

To the Editor of THE LANCET.

SIR,—The introduction of the National Insurance Bill has conferred two benefits upon the medical profession, for it has afforded it an opportunity of considering, and if desired of revising, its methods of supplying "medical benefit" to the industrial classes, and it has produced a solidarity in the profession that many have dreamed of and worked for, but which has never before been realised. Before the Bill becomes an Act of Parliament it is for us to use these temporary advantages in such a way as to secure permanent good. This will only be done if we base our action upon well-defined and just principles, and I fear that up to the present attention has been given too much to details, and too little, if at all, to the underlying principles involved. The latest utterance of the Chancellor of the Exchequer shows that he realises that so long as the profession is absorbed in discussing the details of this measure he has them in the hollow of his hand, and will enter upon the discussion of such details with full confidence that he will be able to exact terms entirely satisfactory to himself.

The primary object of the Bill is to compel large classes of the community to unite with their employers and the State in assurance against sickness. Such an object undoubtedly commends itself to the profession as not only ethically right, but as having the particular advantage of providing money in the homes of patients when the stress of sickness comes.

But the great feature of this Bill that affects the profession is the avowed intention to effect a very wide extension of the existing system of "contract practice" or "*per capita* payment." The advice at present tendered from very influential quarters is that the profession should give a grudging acceptance to this request; that it should agree, subject to a wage limit fixed by itself, and to payment through the Health Committees. I need not stay to point out that the wage limit of £2 a week is wholly arbitrary, that it has not even the shadowy Parliamentary sanction of the £160 a year limit, and that, like all arbitrary limitations, it will land us in grave difficulties and inconsistencies. Such a limit has no ethical sanction, and it leaves the profession at the mercy of the State when discussing the details of what the Chancellor of the Exchequer calls "the contract." My belief is that the only justifiable reply that the profession can make to the Government's request is to say, "We will have nothing whatever to do with contract practice or *per capita* payments." I submit that there is no reason why medical advice and aid should be remunerated on a basis different from that of the services of nurses, landlords, or tradesmen. Why, forsooth, should a splint or an anæsthetic be paid for at the ordinary trade rate, while the man who supplies them is paid by contract? We have now an opportunity of insisting upon our rightful position in this matter, the position claimed by every other section of the community, and we have the prospect of freeing ourselves from an injustice and a thraldom that many of our brethren feel to be intolerable, but if we do not at this moment avail ourselves of this opportunity it will pass from us for ever, and "contract practice" will be securely fixed upon the medical profession with all the binding force of an Act of Parliament. Experience proves that contract practice is as unnecessary as it is unjust and absurd, and instead of trying to "mend" it, as has been suggested, let us "end" it, and let us not for a moment consent to enter upon a discussion of the rate, or other details, of a system no other class of the community would for a moment consent to adopt. *Payment for service rendered is the only just system.* If this were our general practice it would necessarily be accompanied with a very liberal grading of fees.

The principle that a distinction may be drawn between illness due to the infraction of a hygienic or sanitary law, and that attendant upon the infraction of such laws when they have also a moral sanction, is one that I feel sure the profession can never admit. Am I to vary my method of dealing with a case of cancer of the tongue according to whether I believe it to be due to inefficiently treated syphilis, to drinking ardent spirits, to excessive smoking, or to failure to attend to the teeth! This crisis in the relation of the profession to the industrial classes should also be turned to good account by making it the occasion to secure a proper coördination of the many varied branches of medical service to the poor. This is a very large and a very difficult subject, but before this Bill becomes operative we ought to do something to bring order out of the existing chaos.

My one object, however, in troubling you with this letter is to emphasise the fact that the discussion of the National Insurance Bill affords the profession a unique opportunity of regularising its attitude to the public, and that this opportunity should be used to determine, and to insist upon the adoption of, right principles of conduct, and not upon mere unessential details.—I am, Sir, yours faithfully,

ALFRED PEARCE GOULD

Queen Anne-street, W., June 12th, 1911.

To the Editor of THE LANCET.

SIR,—The reason why I am a whole-hearted supporter of the State Insurance Bill as a whole is that the great principle of coöperation has been introduced on such a large scale.

Coöperation and insurance.—Not only will the rich have to share to some extent the burden of the poor, but the healthy and strong will be sharing the burden of the sick and disabled, and the constantly employed the burden of the unfortunate unemployed. Further, a person in his strong and healthy and prosperous days is made to insure against those periods in his life when contrary conditions prevail.

Responsibility of the State and employer.—Further, the Bill is a proof that the State has come to realise that one of its prime duties is to safeguard the health and physical well-being of all its citizens, both in the direction of prevention and of healing. It is to be hoped that the State's contribution will be raised to 3*d.*, the worker's share being correspondingly reduced. It is but right also that the employer, even the humblest, should pay a similar sum for the privilege of being a master. Let me, however, confine myself to some of the medical aspects of the Bill.

The excellence of contract practice.—The Bill extends and establishes on a firm basis the principle of contract practice. Having had 15 years' experience of a mixed medical practice I declare myself a firm believer in contract practice on fair lines. I consider it is best both for doctor and patient.

Advantages to the doctor.—From the standpoint of the doctor he does not need to add to his responsible duties those of a clerk or bookkeeper, and in his leisure moments or after a hard day's professional work have to attack ledgers and be troubled with making bills, many of which are not worth the paper they are written on. Further, he is not (charges not being as in private practice according to the patient's income) torn between the fear of overcharging and that of undercharging, in the former act injuring his patient and also running the risk of losing him, and in the latter doing an injustice to his own profession and to his own family. His motives for being "attentive" are not so much criticised as they are liable to be on the private practice system. His visits are welcome and he is not told not to call too often lest the bill should run too high!

Advantages to the patient.—Surely the doctor's time could be devoted to better purpose and to the better advantage of his patients in reading medical journals and books and keeping abreast with the developments of medicine than in being engaged in the calculations mentioned. The doctor would look upon a patient more as a sufferer and less as a customer. Then, again, with private practice a person, in addition to the distress of having sickness in the house, has to undergo the unpleasant feeling that every visit of the doctor and every bottle of medicine adds to the bill which he may have the greatest difficulty to meet in the future. Is it not better that a bill of £20 should be spread between 40 or 50 persons rather than be the last straw perhaps to break the poor camel's back?

Capitation fee for the millionaire.—The British Medical Association insists that only those whose income is £2 or less should be entitled to medical benefit, and Mr. Lloyd George himself has promised that he will consider whether those possessing an income above £160 should not be excluded from the medical benefits. For my own part (being

somewhat of a wild theorist, perhaps) I would not object to a Rothschild or a Bank of England director obtaining medical attendance at the same rate as a labourer, just as both are entitled to free elementary education for their children and to groceries at the same price. Of course, under this arrangement the millionaire would not be entitled to more of the doctor's time and attention than the poor man. If he wished the luxury of superfluous and prolonged visits and the services of a doctor who knew the *art* or *business* of medicine as much as, if not more than, the *science* thereof, he would, of course, have to pay extra. Not that I would let the millionaire off so easily either. By admitting him to medical benefit the capitation fee would, of course, have to be considerably raised, and he should be made to help carry the burden of the poor by direct taxation or super-taxation of his income. Even excluding him from the medical benefits, the present would seem to be an opportune occasion to increase such taxation. While there is every reason to believe that Mr. Lloyd George will make the Bill in its final form as equitable as possible, it may not be out of place to offer a few criticisms of the Bill as it stands. The question resolves itself into two parts:—

1. *Is the Bill equitable towards the medical profession of to-day?*

Is the Bill equitable towards certain existing members of the profession, for example, those who have either bought, or by hard work and ability have built up, a practice and who, considered apart from this Bill, have a monopoly and almost perfect security of tenure either of private practice or of club or works appointments?

An attack on a beneficent vested interest.—Mr. Lloyd George has confessed the Bill to be an attack on a vested interest and that of a beneficent kind.

Disendowment of the brewer and parson.—How tender the State is towards the publican, the brewer, and the landlord when a licence is extinguished. How tender the Liberal party proposes (and rightly so) to be towards each incumbent of a parish under a Disestablishment Bill by allowing him to enjoy his benefice as long as he lives.

The magic of compensation and of time-limit.—Mr. Winston Churchill has spoken of the "magic of averages." Truly the magic of averages, of insurance, of coöperation is wonderful. But is it not strange that there is no thought of the magic of compensation, or, failing that, of the magic of a time-limit as applied to the vested interest of a medical man?

Upheaval in medical practice.—It is true that Mr. Lloyd George touched on the question of vested interest in his interview with the doctors, but without suggesting any scheme of compensation for its destruction. Stranger still, none of the six points insisted on by the British Medical Association touch on this point.

Sacrificed to a great reform.—Granting that in the accomplishment of every reform some individuals have to suffer, should not an attempt be made at least to minimise the hardships of those involved in the great disturbance, disorganisation, and dislocation that is bound to accompany the great proposed upheaval in the medical profession? Surely a considerable fund should be created towards compensating members of the profession (including dispensers) who otherwise may be brought into the Bankruptcy Court through the operation of the Act.

2. *Is the Bill equitable towards the medical profession of the future?*

In other words, would the Bill be equitable supposing no vested interests had to be consulted?

A minimum capitation fee with extras.—Without attempting to argue out this question I may be allowed to state my opinion that the Bill should fix a minimum capitation fee; that that fee (on the assumption that medical benefits are limited to persons with an income of £160 and under) should not be less than 8*s.* 6*d.* per annum, inclusive of cost of drugs and dressings (that is the sum at present paid in the Post Office for medical attendance on selected lives), or say 8*s* 8*d* (that is, 2*d.* per week, the price of half an ounce of tobacco). Of this sum a minimum of 6*s.* 6*d.* (or 1½*d.* per week) might be earmarked for attendance only, and a minimum of 2*s.* (or 2*s.* 2*d.*, ½*d.* per week) for drugs and dressings. Extra fees (paid from the fund) should be fixed for mileage, hazardous occupations, consultations, operations, and the services of specialists, surgical apparatus, &c., and possibly also for night and Sunday calls. Further, all members of the profession within a certain radius should be placed on the panel with their consent, otherwise what is to become of those outside after the virtual abolition of private practice?

Virtual abolition of private practice.—I say there will be abolition of private practice, for it must only be a matter of time until arrangements will be made by the friendly societies or by the State for the inclusion of the wife and children and others in the medical benefits.

Sharks in the medical profession.—Again, a limit should be placed upon the number of patients each doctor should have on his list (unless he has the help of a partner or assistant), deductions also being made in virtue of his other appointments or work. For, unfortunately, there are some sharks in the medical as in other professions, who undertake more work than they can do justice by and who would starve out their brother practitioners if they could. At the same time the editor of the *Clerk* must not take those exceptional cases as justifying him in the charge of mean extortion against the medical profession as a whole. And in this connexion let me say that the doctors who have in the past accepted a paltry half-crown from clubs have been of two classes—those who were obliged to take the club in order to make a footing for themselves, and those who, though affluent themselves, took the club to cut out a fellow practitioner.

The training of doctors: a State medical service.—It will be agreed that until the State undertakes the free training of doctors, men who have to be kept by their parents for, say, 25 years of their life without earning a penny and upon whom besides hundreds of pounds are spent in training, should, after obtaining a diploma or degree be assured, not only of a living wage, but also of a fair competence. At least they should not (through no fault of their own) be hampered by financial difficulties, for else how can they do justice to their patients? For my own part I am glad that the State has made an interference in medical practice, and I trust that on this Bill can be founded a complete State medical service with doctors as civil servants.

The sagacity of Mr. Lloyd George.—For the present I wish every success to the present Bill, for I am confident that an amicable settlement will be arrived at between the Government and all the parties concerned, for it is apparent from Mr. Lloyd George's speeches that with his usual sagacity he has left in his Bill a considerable margin for concessions.

I am, Sir, yours faithfully,

E. LLOYD OWEN, M.D. Edin., D.P.H.

Criccieth, June 5th, 1911.

*** This letter also appears in the *Liverpool Daily Post and Mercury*.—ED. L.

To the Editor of THE LANCET.

SIR,—Unless something quite unforeseen should occur this Bill will become law in the course of the current year. It proposes to open a sort of State club with unrestricted membership through which medical attendance can be obtained on payment of a trifling capitation fee. The medical profession is already, speaking generally, somewhat underpaid, even the fees obtained by prominent surgeons would look quite small beside those marked on a leading counsel's brief, while the small sum accepted by many practitioners as their ordinary fee would be rejected by any solicitor as payment for the most trifling professional service.

No one who reads the speech made by the Chancellor of the Exchequer at Birmingham can fail to be struck with the extremely clever and artful way in which the subject was presented so as to prove attractive to the multitude; but in it the claims of the medical practitioner were dismissed with a little light banter. "Ruthlessness and remorselessness," to cull a phrase from another part of the speech, is what we may expect (having practically no voting power) unless we are able to offer a vigorous resistance. We have had sufficient evidence of the kind of treatment we may expect from the legislature in the Registration of Births and Deaths Act; in the petty meanness of depriving hospital officers of inquest fees; in the Midwives Act, with its obligation to summon a medical practitioner but without making anyone responsible for his payment; and in the persistent refusal of legislation against unqualified practice.

If the medical benefits section were dropped and the provision for "voluntary" participation in the scheme were abandoned no great harm would, I think, be done to the

profession. And since the means of obtaining medical attendance gratuitously or on very easy terms are already sufficiently abundant, the benefit to the "insured" would not be materially lessened. If once the principle of tax-paid medical benefits is accepted, I feel sure that—firstly, any income limit for beneficiaries which may at first be granted will soon be abandoned; and, secondly, that the contributions of the "insured" will disappear, just as the "school fees" have disappeared from the Education Acts, and the whole cost be thrown on the rate- or tax-payer. Have we any means of resistance, if, as seems likely enough, our demands, whether in the form of the six points suggested by the British Medical Association or in any other, are not acceded to? Three methods of reprisal have been suggested by different correspondents in your columns: 1. Refusal to take office under the Act. 2. Resignation of all friendly society appointments on the Bill becoming law. 3. Resignation of all honorary appointments and refusal to do any more gratuitous work on the Bill becoming law. The medical profession seeks definite advice.

I am, Sir, yours faithfully,

Romford, June 13th, 1911. CHARLES D. GREEN.

To the Editor of THE LANCET.

SIR,—In not a single instance, amongst the voluminous correspondence which you have published concerning the National Insurance Scheme, have I seen any reference made or objections expressed to the dispensing being taken from the doctors. I suppose your correspondents must have been occupied with the other issues, and overlooked what to my mind is a most important thing. In years gone by I have had considerable experience in locum work for general practitioners all over the country, and I have often noticed how remunerative the dispensing of medicines is to them. This certainly applies to my own practice. There is not a day but what a number of patients who are in the convalescent stage and do not need a visit send to my surgery for a further supply of medicine, which is charged for. In many instances of convalescence where a patient needs a tonic he will continue taking the medicine perhaps for a month, feeling a considerable amount of benefit thereby. This is a continuous and proper source of revenue to the general practitioner, and the loss that will be entailed upon him by losing it will be serious.

I am, Sir, yours faithfully,

Bootle, June 9th, 1911. S. RAMSAY SIBBALD, M.D., B.Ch.

To the Editor of THE LANCET.

SIR,—This Bill is an outrage to the medical profession. In my opinion it ought to be met in the following way. Every doctor should carefully consider how it is going to affect himself or his neighbour, and if he agrees that it means ruin to many through no fault of their own, then he should pledge himself to do no work under its provisions, to attend no person voting for, or pairing in, its favour, and to have no intercourse, social or professional, with anyone who does either of those two things. I do not think Mr. Lloyd George knows much about general medical practice, and it will require something drastic to teach him.

I am, Sir, yours faithfully,

June 12th, 1911. SKENE KEITH.

To the Editor of THE LANCET.

SIR,—May I crave space in your paper to reply to the number of letters I am receiving on this subject asking my advice? Thirty-five years' intimate acquaintance with the medical profession, and more especially with the general practitioner, has brought me into contact with probably some two-thirds of the whole body of general practitioners, and I can therefore claim a somewhat unique experience on the much vexed contract system. I have observed with regret the gradual increase in the baneful practice of paying for medical service by capitation fees by clubs, medical aid associations, and other similar societies. I have also been gratified to find that many have conscientiously refused all such appointments, but unfortunately the lack of unity in the profession has hitherto prevented any serious stand being made against the system.

The proposed Bill, however, much as the general principles deserve commendation, has rightly raised a storm of indignation among those chiefly concerned in supplying the medical needs of the country. It remains for practitioners to unitedly and determinedly refuse to undertake any work unless paid reasonable fees for services rendered, and not *per capita;* also to insist on adequate representation on any boards or committees formed to deal with the question, and to insist on free selection of their medical man by the patients.

I am, Sir, yours faithfully,

London, June 10th, 1911. PERCIVAL TURNER.

To the Editor of THE LANCET.

SIR,—On Monday, May 29th, the second reading of the National Insurance Bill was carried without a division. In the course of the debate Mr. Lloyd George endeavoured to throw oil on the turbulent waters of professional resentment, and to quiet misgivings that had been excited throughout the country among medical practitioners by the perusal of those portions of the Bill dealing with "medical benefits." It is needless to say that he answered to his own satisfaction all the points urged by the profession against this measure.

It might be interesting to re-examine these points in the light of Mr. Lloyd George's criticism. I will take them in the order of their importance, and therefore commence with the last—viz., the "income limit." To begin with, exception might be taken to the want of accuracy in Mr. Lloyd George's criticism. He states the various points challenged by the doctors, and sets out five, the fifth being the "income limit." He then goes over these—or appears to—separately, and finally says: "The doctors proceed in their criticisms on *five* assumptions, *all* of which are erroneous." As the fifth, the "income limit," he distinctly refuses to consider, how can he logically contend that the *five* assumptions are *all* erroneous? It is true he has subdivided the first four, and made five without the "income limit," which he first reckoned; but in so doing he has given rise to a confusion in his argument which is not conducive to clear and exact reasoning.

Next, let us look at what he says about the "income limit." His chief objection is that many highly paid artisans and others can claim at the present time a cheap contract rate for medical attendance, and cannot now be deprived of it. What is the force of this argument? Many of the same class also possess now a right to medical attendance and medicine at the rate of 4*s.* per annum, but he inveighs against the wickedness of this, and proposes by his Bill to put an end to it. It is difficult to see why the argument would not equally fit both cases. The medical profession do not condemn the one practice more than the other, and it is only Mr. Lloyd George who appears to draw different conclusions as to their respective depravity. One of the chief reasons the British Medical Association had for drawing up the report on contract practice, which is so commended, was to take steps, if possible, to enforce an equitable "income limit" in contract practice, and so get rid of one of the greatest abuses complained of by the profession. Yet the present existence of this great evil, which we have always considered so dangerous to our welfare and that of the public, is put forward by the Government as a reason for forcing the same vicious principle on a large proportion of the population of the country. The truth of the matter is slurred over. The reasoning would be sound only if the present absence of an "income limit" in the case of friendly societies was approved and supported by the medical profession, when the truth is the reverse. It is argued because a thing is, it must be right, and should be adopted in legislation for largely extending contract practice, however cruel a wrong may be done to the doctors of the community. He further instances the German doctors as being pleased with the result of such legislation, when it is at least a moot point whether they are, and untrue if it is suggested—as it seems to me it is—that there is no objection in Germany to the absence of an "income limit." No one in that country with an income of £100 per annum comes under that legislation. Mr. Lloyd George may contend that his reference to Germany only applied to points other than the "income limit," but such an admission must nullify the force of any argument derived from a comparison of the scheme which he proposes and that in force in Germany. If we are granted the "income limit" our profession has in Germany, we might, no doubt, look less critically on the other points and be prepared to receive them with less disfavour than has hitherto been the case.

Having dealt with the "income limit," a few words might

be said about the other "erroneous assumptions" of the profession. The capitation grant comes first. There is nothing in the Bill to define the amount. It might possibly be a figure beyond our wildest dreams. But this would hardly fit in with Mr. Lloyd George's answer to a medical correspondent, who asked for a capitation payment of 10*s.*, and was told that the Bill was not an "Endowment Bill for Doctors." When suggested at a meeting between the Chancellor of the Exchequer and a deputation of the British Medical Association that the figure should be 7*s.* 6*d.*, it was intimated that that was far too high. The continual harping of Mr. Lloyd George on the equity of a payment of 6*s.* a head, including medicine, and its great advance on the rate now paid by most friendly societies, would still further justify the discontent of the profession on this point.

Next, the capitation grant included all bad lives. If there is anything in the Bill that would contra-indicate this, Mr. Lloyd George has not pointed it out. That it might be altered in the Committee stage of the Bill is quite another matter. As the only idea we could have got up to the present must have been derived from the Bill, it is a little "previous," to say the least, to call it an "erroneous assumption."

Thirdly, we have the "free choice of doctor." That some sort of free choice of doctor might be given is possible, but that medical men, who know only too well what club practice has always been hitherto, should expect that the proposals in the Bill would tend in that direction is preposterous. Mr. Lloyd George says he is all for free choice of doctors within limits. What limits? His remarks as to vested interests and malingering would seem to indicate that the free choice of doctors, "as far as is possible under the scheme," is very limited and amply justifies the doubt of the profession. So much, then, for another "erroneous assumption."

The fourth "erroneous assumption" is that the profession is to be placed under the heels of the friendly societies. The Bill distinctly states that the medical arrangements are to be made between the friendly societies and medical practitioners, and the former have been complimented on the good bargains they have hitherto made with the doctors. It is admitted that the said arrangements must be sanctioned by the Insurance Commissioners, but even under these circumstances there is nothing to show that the profession might not continue to be under the heel of the friendly societies. In his interview with the representative body of the British Medical Association, Mr. Lloyd George intimated that he was personally quite willing to put all the medical arrangements into the hands of the local health committees, if the Members of the House of Commons could be got to support the proposal. In the teeth of the opposition of the friendly societies, this would be a very unlikely consummation. The more the Bill is considered the more evident it becomes that most of the machinery depends on the friendly societies. Yet we are told that our assumption in that respect was "erroneous."

The fifth and last point is the "income limit," and, as I have before stated, this is only presumed to be erroneous by inference, as Mr. Lloyd George when directly treating of the above five points discreetly leaves this out. He does remark that doctors do not want an "income limit" with respect to what they earn, however much it may be desired in regard to the incomes of their capitation patients.

Precisely so. It is because they do not desire the serious limit to their incomes that would be brought about by this measure, failing a strict income limit being put on such patients, that the doctors of the country strongly object to the medical provisions of the Bill, and if they are wise will leave no stone unturned to defeat them.

I am, Sir, yours faithfully,

MAJOR GREENWOOD.

To the Editor of THE LANCET.

SIR,—Why not let Mr. Lloyd George pass the Insurance Bill? If the medical profession is as unanimous as it professes to be, Mr. Lloyd George will pay the penalty next May for flouting its demands. My own opinion, however, is that Mr. Lloyd George will have no difficulty in finding medical men of sorts who will accept any terms he offers. What we ought to do is to devise some means of meeting this. Mr. Hulke's suggestion in your issue of June 10th, as to the treatment of these persons by the General Medical Council, seems to me the only practical suggestion that has been made up to the present, and I hope the profession will seriously consider the question of adopting it.

I am, Sir, yours faithfully,

Knightwick, Worcester, June 12th, 1911. P. G. FOULKES.

To the Editor of THE LANCET.

SIR,—I fail to see on what grounds the British Medical Association and the profession at large object so much to the friendly societies. For have they not obtained their goods at the lowest price, like all business firms do? If medical men have allowed themselves to be sweated (which is not true), who are to blame? Why, they are. But of course there is another side to look at. If A will not work for the regular trade price, B will—so A will absorb all the clubs at sweated prices so that B shall not have a chance to get a footing. Public bodies all over the country object to pay more than the market price for their doctor and one has no right to throw undue odium on the friendly societies.

I am, Sir, yours faithfully,

Bloomsbury-street, W.C. EDWARD CARNALL, D.P.H.

To the Editor of THE LANCET.

SIR,—May I implore my fellow medical men to repose no confidence in Mr. Lloyd George's promises that the profession will not be injured in any way by his State Assurance Bill? The very shadow of it has already spoilt the sale of practices. Mr. Lloyd George is a very positive gentleman and a very Socialistic one, and whatever concessions he gains from us now will be but the beginning. I feel certain he intends to include the children and women in the near future, and to reduce us to the position of State employees. As it is, we have to cope with extra work forced upon us by school inspection. I mean those of us who have family clubs. If the Chancellor's ideas of benefiting the labouring or producing classes at the expense of the middle classes be evolved in entirety our profession will not be considered in any way. I consider his proposals are an insult to the most charitable and hard-working body of people in the world. Because in the old days to encourage thrift, and help the movement or development of friendly societies, we accepted a low capitation fee, he considered that fee our price, knowing or understanding nothing of the reasons of our attitude, nor probably caring to inquire. As it is, in his remarks to the British Medical Association he was very doubtful if his scheme would allow free choice of doctors, in his own words, it would be only to a *limited* extent.

Trust him not, our fate is in our own hands now, not his. He cannot work his scheme without our consent. Let us make no concessions whereby we will be controlled by the State or friendly societies. Let us preserve our individualities and keep our practices intact and our powers of earning a decent livelihood. Let us be charitable always, but let us for ourselves decide who shall be the recipients of our charities. Beware of the man who considers we ought not to charge fees to anyone earning £3 a week, but ought to doctor him or her at so much per head a year. Why, if that clause should obtain in the Bill, we are deprived, most of us, altogether of the power of doing anything but contract work, for in the manufacturing towns how many people earn more? We who have to earn our livings in such places know where our private patients come from; it is from the people who earn between 35*s.* and £3 a week. Deprive us of them and all goes!

I do not wish to take up more of your space, but I do implore my medical brethren to preserve their individualities, to retain their practices in their own hands, to keep their patients intact, and to make sure that when they die their practices may still remain a part of their estate for the benefit of their widows and children, even if we have to resort to an "organised stoppage of work" to obtain our just rights. We do not wish to threaten or hurt anybody, but we should let Mr. Lloyd George know his exact position as regards ourselves. I am, Sir, yours faithfully,

June 2nd, 1911. JUSTICE.

To the Editor of THE LANCET.

SIR,—I beg to support the suggestion of "Only Justice" in to-day's issue of THE LANCET that the wage limit should be 26*s.* instead of £2 a week, which is too high.

I am, Sir, yours faithfully,

June 10th, 1911. R. E. P. S.

To the Editor of THE LANCET.

SIR,—An onslaught of the nature of the Insurance Bill on the rights and independence of the members of the medical profession needs meeting in a very firm manner. We must not listen to all the sweet things said about our efforts to supply the wants of the needy and allow our means of defence to slip from us. I think that there must be an income limit for those joining; if not, our practices will be ruined and so shall we in spirit and condition—there is no mincing this matter. Now, what shall this amount be? Say 25*s.* per week for the unmarried and 35*s.* for the married. Why cannot THE LANCET or the British Medical Association send a reply post-card to each member of the profession, requesting an answer to this question within a week, as to the amount of the limitation, and then let us stand firmly shoulder to shoulder on the majority reply; this will decide the matter once and for all and in a businesslike manner.

The fee mentioned for maternity cases is very low—viz., 10*s.*; this is the charge of a midwife. Surely one guinea is not too much with a week's after attendance. Most of these cases occur at night, and one gentleman suggests that we may expect 100 per annum. The broken nights indicated and the hard duties of the day will soon tell a tale on the health of the medical practitioner. For this State duty (which will mean under the present clauses of the Bill at least four-fifths of our practices) there seems to be no mention of a State pension, when the medical man fails in health or is too old to continue to practise. There will be under this Bill very hard work and no chance for any saving, after the household and family expenses are met. It is very evident that the value of our practices will decrease without any compensation. I am pleased to hear that the medical meeting at York decided not to have anything to do with the Bill in its present form, and that is the only course to pursue. We shall deeply regret it if we are led away by a measure that has no merit in it, as far as we are concerned.

We do not want to be paid for work that we do not perform. A tariff such as the one used by the National Deposit Society, which is the fairest I know of, would have met the needs of the workers. It is as mentioned below:—

	s.	*d.*
One visit and medicine for two days	2	6
Each intermediate visit in a dangerous case	1	6
If beyond two miles and under three (outward), extra	0	6
If beyond three miles and under four ,, ,, ...	1	0
Over four miles, extra per mile	1	0
If the nearest medical practitioner is not employed, the extra charge for mileage must be paid by the member.		
One attendance at surgery and medicine for two days	1	6
One fresh supply of medicine for two days	1	0
If the member is entitled to over 5*s.* daily sick pay extra per visit or attendance for every 1*s.* above 5*s.*	0	6
Extra per visit between the hours of 9 P.M. and 8 A.M.	1	0
Extra per attendance at surgery between same hours	0	6
Sick certificates (when no medical fees are claimed)	1	0

I am, Sir, your faithfully,

York, June 13th, 1911. A. K.

To the Editor of THE LANCET.

SIR,—Some of your correspondents in last week's issue of THE LANCET touch upon a point in connexion with the National Insurance Bill which appears to me to be of the utmost importance—viz., the attitude of the General Medical Council towards it. The terms and conditions of service provided by the Bill as now drafted are so degrading to the medical profession that, bearing in mind the action of the Council in the past in relation to certain forms of contract practice, I have been daily expecting a pronouncement that it (the Council) would regard the acceptance of these terms and conditions as "infamous conduct in a professional respect."

If the Council cannot or will not do this, I suggest that every medical man be asked to pledge himself "not to serve under this Bill nor assist anyone who does so." The pledge could be asked for by THE LANCET or the British Medical Association.

I am, Sir, yours faithfully,

June 13th, 1911. F.R.C.S. ENG. IN GENERAL PRACTICE.

To the Editor of THE LANCET.

SIR,—That the Insurance Bill is intended to include families in the end is clear from the Chancellor's statement that he shall enter his own children. Such an example would spread like fire in Wales. No possible capitation fee would cover the loss of middle-class practice. An extra assistant, whom it is only possible to employ in general work, is impossible under only club work. Yet every doctor who does not keep one would have to. Therefore the scheme is impracticable. Let us federate and decide to stand aloof from the whole affair. Let us dictate improved club terms, including the power of removing from the medical list any person above an income of 30*s.* per week or who is a drunkard. No country club should pay less than 6*s.* per member, and the club should pay mileage bills and night visits, and only the simplest apparatus should be included. Consultations also should be paid for.

We were never in a better position to deal with the sweating club. The club has shown us no mercy in the past and taken advantage of our blacklegs. Now let us extricate ourselves and confine the medical part to persons of 30*s.* per week, for whom alone medical clubs were intended. There are few single men of 30*s.* per week but could afford to pay for a few bottles of medicine a year, and I think that as a fixed charge is advised per visit a fixed charge should be made for, say, the first six bottles of medicine and first few visits.

Let not our discontent pass into smoke. Directly we have fixed a wage limit of 30*s.* per week we can remove from our list those well-to-do clubmen who really wrong us, and can regard with calmness the Chancellor's scheme as not affecting us. Rural practitioners, at least, should ban the new scheme. Every country doctor would want an assistant. The card the Chancellor plays is that nine-tenths of £160 a year artisans are already in medical clubs. Our card must be the removal of these well-to-do artisans from their position (medically). The club can retain them for other purposes, but we will not. Every club member who gets over 30*s.* per week must be removed from the medical list, and any fraud severely punished. The removal of all check by fees to visits would mean ruin to us. Those who accept the Chancellor's terms will in a month find themselves unable to deal with the overwhelming work. Then assistants will have to be found, as in the case of county school medical officers. The entire difficulty can be overcome by our refusing the offer "with thanks."

I am, Sir, yours faithfully,

June 3rd, 1911. X. Y. Z.

THE BRITISH HOSPITALS ASSOCIATION.

To the Editor of THE LANCET.

SIR,—The meeting which was held at St. George's Hospital on June 2nd to consider the probable effects of the National Insurance Bill upon the voluntary hospitals was convened by the council of the British Hospitals Association. As many of those present were not informed as to the objects of the association, I may state that it was formed last year for the purpose of affording facilities for the consideration and discussion of matters connected with hospital management and to take measures to further the decisions arrived at. The association also undertook to arrange for the reading, discussion, and publication of papers, and for the holding of an annual conference for the consideration of matters relating to hospital administration generally. The first annual conference was held in Glasgow in September, 1910, and arrangements are now being made for holding the second conference in Manchester on Sept. 28th and 29th next.

All persons who are engaged in the active administration of hospitals, either as trustees, members of committees, or as executive officers, are eligible for membership upon payment of an annual subscription of half a guinea. As the association has to bear very considerable expense in organising meetings and the issue of papers, &c., it is essential that the membership should be very greatly increased if its usefulness is to be extended. I shall be glad to receive application for membership.—I am, Sir, yours faithfully,

CONRAD W. THIES, Hon. treasurer.

Royal Free Hospital, W.C., June 7th, 1911.

STANDARDISATION OF BREAD: SUGGESTED METHOD.

To the Editor of THE LANCET.

SIR,—Although different kinds of wheat vary in composition, as the germ and inner layer of the husk each contains a higher percentage of proteid, fat, and mineral matter, including phosphoric acid and iron, "standard" flour—i.e., flour containing at least 80 per cent. of the whole wheat including the germ and semolina, made from any kind of wheat or mixture of wheats—contains a larger percentage of each of the above constituents than fine white flour made from the *corresponding* wheat or mixture of wheats. There are similar higher percentages for "standard" (unpolished) rice in comparison with those of white polished rice made from *corresponding* rice.[1]

Eijkman in 1896 showed that fowls fed on white polished rice (peeled rice) developed a polyneuritis similar to beri-beri, which was not the case when they were fed on unpeeled rice. Since then evidence has been accumulating that the inner layer of all cereals such as wheat, oats, rye, rice, and maize contains an important substance or substances which are essential to the nutritive value of the grain, and that if these are eliminated in the milling or preparation of the grain a staple diet composed of cereals thus peeled not only fails adequately to nourish the consumers, but tends to set up active disease. The sturdy physique of Scotch peasants is well known. Their staple food is prepared from "unpeeled" oats, and not "groats," which are peeled oats. In a large number of instances, as reported by various observers in the East, beri-beri has been practically exterminated by the use of unpeeled rice.

Respecting the etiology of beri-beri numerous researches have for years been carried out by many observers, and Schaumann[2] in December, 1910, published a monograph giving details of these observations and researches. Other researches have for some years been carried out by Dr. H. Fraser and Dr. A. T. Stanton[1] at the Institute of Medical Research, Kuala Lumpur, Federated Malay States. They have proved that the substances contained in sifted rice polishings, which are effective in preventing polyneuritis, are soluble in 0·3 per cent. hydrochloric acid and are not precipitated from the solution on the addition of 95 per cent. alcohol in quantity sufficient to make the resulting mixture of proof-spirit strength. These substances comprise 16 per cent. or less by weight of rice polishings, or 1·6 per cent. or less by weight of the original unpolished rice grain. Therefore "standard" rice might be taken to mean rice which contains at least 1½ per cent. of the substances obtained by the above method from rice. In the course of their researches they have also proved that the *fats* which are contained in rice polishings in comparative abundance are of no importance in preventing polyneuritis, and the same applies also to *phytin*, the calcium magnesium salt of an organic acid containing phosphorus. This phytin is precipitated on the addition of alcohol, and contains 73 per cent. of the total amount of phosphorus pentoxide contained in the siftings. Recent researches in England by Dr. F. G. Hopkins of Cambridge, Dr. Leonard Hill of the London Hospital, and Dr. E S. Edie and Dr. G. C. E. Simpson of the Liverpool School of Tropical Medicine, have also indicated the superior food value of "standard" bread.

It may be inferred from the similar microscopical structure of the inner layer of wheat and rice, each containing a layer or layers of aleurone cells, and from the similar chemical composition of the phytin[1] obtained from the bran of wheat, rice, and other cereals, and the analogous composition of wheat and rice, that the substances contained in the inner layer of the husk and the germ of wheat will also be extracted by the same or similar means. A "standard" flour might therefore provisionally be taken as a flour which contains at least a definite percentage of the substances thus extracted. Minimum percentages for the other principal components, proteids, &c., would also be required. Bleaching and adulteration of flour by the addition of chemicals, so-called "improvers," should be forbidden. As flour and bread form the staple food of the poorer masses in England, it is desirable that standards should be fixed and enforced by law.

I am, Sir, yours faithfully,

W. A. BOND.

Municipal Offices, High Holborn, W.C., June 13th, 1911.

[1] THE LANCET, Dec. 17th, 1910, p. 1755.
[2] Archiv für Schiffs- und Tropen-Hygiene, Band xiv., Beiheft 8.

ANÆSTHETICS IN INTESTINAL OBSTRUCTION: THE VALUE OF GASTRIC LAVAGE.

To the Editor of THE LANCET.

SIR,—When studying the surgical aspect of general anæsthesia in this class of case, it seemed to me that the disadvantages of preliminary gastric lavage outweighed the advantages for the following reasons. First, because one cannot tell when the stomach has been emptied; one may see a pint or two of fæculent material regurgitated within a minute of withdrawing the tube. Secondly, because after severe retching, when presumably the stomach is emptied, one may see fæculent material vomited in quantity within two minutes, so that the stomach fills up again very rapidly. Thirdly, because the patient sometimes dies during retching without regurgitation or obstruction to breathing. Fourthly, because lavage is very unpleasant and a severe strain on the patient. The proceeding makes the pharyngeal mucous membrane irritable, thereby setting up cough and prolonging the period of induction and helping to induce retching. As regards continuous syphonage, the presence of the tube is a nuisance to the anæsthetist.

After considering the matter it seemed to me that the safest way would be to induce anæsthesia with the patient turned well over on the right side and to have an efficient gag with overlapping tooth plates ready for instant use, together with tongue forceps and at least three pairs of strong two-bladed sponge forceps ready loaded. I do not mean the gimcrack tube and sliding ring pattern. Light anæsthesia in such cases is troublesome for the surgeon because the intestines are generally much distended and the operation thereby rendered difficult unless muscular relaxation is complete. At the conclusion of the operation the patient should be kept deeply anæsthetised and as soon as convenient rolled on his side. *In this position* he is transferred to the stretcher and so to bed, again being placed on his side, and not till then is the third degree of anæsthesia relaxed. The gag, loaded sponge forceps, and tongue forceps are placed near the nurse who is to watch the patient until he has fully returned to consciousness. Although after the ordinary operation case it is easy for the anæsthetist to time things so as to insure a quick return to consciousness or sleep, as the case may be, the procedure in a case of severe intestinal obstruction with frequent, profuse, fæculent regurgitation is an exception. Death in such cases is a matter of some three seconds only, the heart stops in diastole during retching or during sudden respiratory obstruction. These cases are frequent, but seldom published. They are known as "drowning fatalities." Some of these points I referred to briefly in an article in THE LANCET of Oct. 12th, 1907.[1]

I am, Sir, yours faithfully,

Aberdeen, June 5th, 1911. G. H. COLT.

PROFESSOR GWILYM DAVIS'S "APPLIED ANATOMY."

To the Editor of THE LANCET.

SIR,—Will you kindly allow me to make a few comments on your review of my book on "Applied Anatomy" which appeared in your issue of March 25th, 1911? On submitting it to a friend for perusal he stated that in his opinion it was an unfavourable review, thus agreeing with me. To justify such a position the reviewer must have thought that the bad in the book outweighed the good. For the reviewer and author to have arrived at such different conclusions must, I think, be accounted for by their looking at the subject from different standpoints. The reviewer, I should think, though I know not, is probably a scientific anatomist, while the author is a practising surgeon. In his remarks he seems to have ignored the main objects of the work, which were:

[1] See also THE LANCET, May 20th, 1911, p. 1350, and June 3rd, 1911, p. 1534.

First, to explain on structural grounds to as wide an extent as possible the reason for various clinical phenomena in medicine and surgery and the measures employed in their treatment, thus furnishing a rational basis for medical and surgical practice. Second, to so associate together and point out the relation between the structure of a part and its functions in health and in disease and injury as to stimulate the interest of the student in anatomy, and cause him to appreciate its practical value in the actual practice of medicine and surgery. That the work fails in either of these objects we are pleased to see your reviewer does not assert. The author had expected a certain amount of criticism on the score of nomenclature, but to have used the most modern nomenclature in all cases would have rendered the work unsuitable for those for whom it was written—viz., those unfamiliar with the most modern terms. It is true that the words above and below were used to indicate relative height instead of cephalad and caudad, and that beneath was used to indicate structures under the surface—they were purposely so used. The reviewer's opening paragraph seems a trifle unkind. Had the author used the words "attractive volume" to praise his own work the expression might justly have been criticised, but it was employed simply as an acknowledgment of kindnesses and assistance which he had received from others. One would hardly have expected the appeals to embryology to be satisfactory to a scientific embryologist, but a surgeon looking at the subject from a practical standpoint would be more likely to find them sufficient. He also used the expression, "which, if not embodying much that is new," and then immediately below quotes some quite novel remarks to which he very decidedly objects. That portion was rather amusing—as to the real novelty of the work that can only be decided by one who is or recently has been in active practice.

The criticisms, while perfectly true as a whole, are, when adverse, minor in character, but the penalty inflicted is capital. He practically condemns the book and this we feel is not deserved. We believe that it was not intentional but simply that an abstract scientist has been unable to appreciate the subject from the viewpoint of a practitioner.

I am, Sir, yours faithfully,

Philadelphia. GWILYM G. DAVIS.

PRURITUS AND TABES.

To the Editor of THE LANCET.

SIR,—The letter from Dr. A. Bennett on Pruritus Ani in THE LANCET of June 3rd, p. 1534, prompts me to ask you to be so good as to allow me to draw much-needed attention, through your columns, to the important subject of pruritus and its occasional relationship to tabes, especially early tabes. A knowledge of this relationship may easily save all of us from diagnostic shipwreck now and then: for everyone admits that the diagnosis of the cause of pruritus is often very difficult.

The first observer who made a detailed study of the subject was Milian.[1] He found a causal relationship in six out of 25 cases. Of these, three were anal, one anal and periorbital, one thoracico-lumbar, and one epigastric. The pruritus was always localised and lasted for years with severe exacerbations. It may exist alone or with other symptoms of tabes. Milian found it always an early symptom; it occurred only in incomplete cases (tabétiques frustes), and never in ataxic cases. Lumbar puncture and also analgesic drugs were therapeutically helpful. A week later, in the same journal (p. 1015), Lamy recorded a case in which the pruritus was localised and paroxysmal, but his patient was in the last stage of tabetic cachexia and incoördination. The fullest study hitherto published appears to be that of J. Rebaud.[2] He collected 39 cases, of which 27 were personal; of the latter set, eight gave a history of pruritus; thoracic pruritus was the commonest; only one was anal.

In summarising the above observations I have freely used the valuable abstracts by Dr. J. D. Rolleston in that storehouse of neurology, the *Review of Neurology and Psychiatry*, 1907, p. 909, and 1908, p. 607. In conclusion, I should like to point out that the existence of old pruritus, especially the anal variety, is often not mentioned by the patient who naturally, in his innocence, concludes that pruritus ani must have a rectal causation, and thinks of pruritus elsewhere as probably what he is pleased to call "gouty eczema" or "suppressed gout." Therefore, unless we ask questions about old pruritus in tabetics we shall often miss it; and further, unless we think of tabes in cases of pruritus, especially when we find no obvious cause, we shall from time to time disgrace ourselves.

I am, Sir, yours faithfully,

London, June 3rd, 1911. LEONARD J. KIDD, M.D.

[1] Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris, ct. 17th, 1907, p. 991.

[2] Thèses de Paris, 1907-1908, No. 287.

"THE LANCET" REVIEW OF THE "ANNALS OF TROPICAL MEDICINE AND PARASITOLOGY."

To the Editor of THE LANCET.

SIR,—Under the above heading in THE LANCET of May 27th, your "Reviewer" has condemned my work on the cell-division of white blood cells induced by the extracts of dead tissues. Apparently without seeing the experiments, he says that my work is "fundamentally opposed to the whole of the theories and practice of antitoxins and vaccines," and that nothing which I have written "even suggests to anyone conversant with cell phenomena that a multiplication of cells is thus induced." I should like to state that several people have seen the division figures, and in the *British Medical Journal* of Jan. 21st last Major Ross wrote a letter to say that he had seen some of the experiments and was convinced of the induced cell-division. Moreover, Dr. Fantham, in a paper in the current number of the *Annals of Tropical Medicine*, has pointed out that the division of *Entamœba coli* can be induced through five generations without transplantation by the agency of "auxetics," the action of which I discovered.

If your reviewer will do me the honour to communicate with me at the Lister Institute I shall be most happy to show him the experiments so that he can judge for himself by direct observation. I am, Sir, yours faithfully,

Chelsea, June 13th, 1911. H. C. ROSS.

THE PATHOLOGICAL CHANGES IN ACROMEGALY.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 15th is a report of a paper by Professor Keith on acromegaly. The paper ends with the paragraph: "The two points which I wished to bring forward evidence to prove in this paper were the following: 1. That the changes in acromegaly are of the nature of true growth, and are apparently due to the circulation through the body of a substance formed in the pituitary. This substance seems only to sensitise the tissues, the actual cause of their growth being mechanical stimuli arising from muscular action and mechanical movement. 2. The growth changes seen in the acromegalic are of the same nature as those which occur normally in anthropoids and in the Neanderthal race, and both are probably due to a condition of hyperpituitarism." Now it appears to me that these conclusions are hardly warranted, and that Professor Keith has approached the subject too much from the point of view of the morphologist.

Some time ago, when pathologist to the Dreadnought Hospital, I attempted to work out the chemical changes that have taken place in bones which have undergone pathological processes. Among portions of bones analysed was a small piece removed from one of the acromegalic skulls mentioned in this paper as the Greenwich specimen. (Professor Keith no doubt noticed the small section removed from above the temporal bone). Small pieces of bone were also obtained from other skulls in the Greenwich collection. These pieces were reduced to ash in platinum vessels by Mr. Harte, the dispenser to the hospital, and the weighings before and after were taken to show the relations of ash to organic matter. The ash I analysed myself. Unfortunately, I have not access to the notes I took at the time, but I well remember that whilst the estimates for the normal skulls approximately agreed, those for the acromegalic skull were very different indeed. I believe that the chief difference was a loss of organic matter

in the acromegalic specimen, from which I concluded that the primary change is a change in the chemical nature of the bone; thus the bone being weakened tends to sheer at points of greatest physical stress. If, as Professor Keith says, "this substance seems only to sensitise the tissues" is true, one would hardly expect to find great changes in the chemical nature of the bone. Surely, the great enlargement of the frontal sinuses can only be explained by the action on the weakened bone of internal pressure and perhaps the traction of the muscles inserted into their outer walls, for if I remember rightly, if the interior of an acromegalic skull is viewed the sinuses can be seen to have enlarged in this direction. (Enlargement takes place in the sinuses of singers due to internal pressure.)

Now this is very different from what takes place in the skull of an anthropoid, in which massive muscles form great ridges, with very little increase in the size of the frontal sinuses. Judging by numerous other phenomena in the field of zoology, if the muscles attached were destroyed in a young gorilla before the ridges of the skull had developed, the ridges would none the less appear, in spite of the muscles being functionless. Some of the growth changes seen in the acromegalic may be morphologically along the same lines of direction as those seen in the anthropoid, but they certainly are not of the same nature. Much light will not be thrown upon the nature of acromegaly until more is known of the internal secretions and their connexions with growth and function, and this is in the scope of physiological and pathological chemistry.—I am, Sir, yours faithfully,

LUCIUS NICHOLLS.

St. Lucia, British West Indies, May 10th, 1911.

HOSPITAL TREATMENT OF MEASLES AND WHOOPING-COUGH.

To the Editor of THE LANCET.

SIR,—In your issue of June 10th you give under this heading certain figures from which it would appear that the fatality of the measles cases treated in the hospitals of the Metropolitan Asylums Board during the first 21 weeks of the year was 15·4 per cent., while that of the cases treated in the London Fever Hospital during the same period was only 0·4 per cent. In comparing the two sets of figures the paragraph goes on to say that "it is difficult to suggest a satisfactory explanation of this startling contrast in the case-mortality of measles" and to hint that "it may be partly due to difference in the condition on admission of patients treated in the Metropolitan Asylums Board hospitals and in the London Fever Hospital." I confess to a feeling of astonishment that a medical journal possessed of such resources and of so high a reputation and standing as THE LANCET should have any difficulty in finding a satisfactory explanation of the difference in the two fatalities. The writer of the paragraph in question must be singularly wanting in information which it would not have been difficult for him to have obtained, and which would have gone a long way towards assisting him in solving the problem. It was only during the last week of 1910 that the Asylums Board hospitals began to receive cases of measles as such. During the 21 weeks alluded to in the paragraph from which I have quoted, the admissions were strictly confined to pauper cases; application for admission had to be made on a relieving officer's order as well as on a medical man's certificate. If you turn to the London Fever Hospital it will be found that admissions are mostly limited to two classes of cases—the one consisting of cases occurring among the servants or employees of annual subscribers to the funds of the hospital, the other of cases to secure the admission of which a fee of three guineas has to be paid. These conditions at once ensure the elimination from admissions to the London Fever Hospital, not only of paupers, but of patients drawn from the very large class just above pauperism, and limit the admissions to members of the well-to-do classes and their servants. Now anyone who has the slightest acquaintance with the behaviour of measles knows, or should know, that measles amongst the poor is a much more serious disease than it is amongst those who are better off. And this difference in the classes from which the patients are drawn is responsible for a certain proportion of the difference in the fatality of the disease in the London Fever and Metropolitan Asylums Board hospitals. From my experience at Homerton I can say that there has been a further selection which has favoured the admission of the worst cases to hospital. In not a few instances have I been informed that out of several children down with measles only those who have been the subjects of severe attacks have been sent to hospital.

There is another factor of immense importance in comparing fatalities of which your paragraph takes no account. I refer to the ages of the patients. It is an elementary fact in the behaviour of measles that the younger the patients the higher the fatality. I am unable, unfortunately, to give the ages of the cases quoted in your paragraph, but I can give some information which may be helpful. Of 325 cases of measles admitted to the Eastern Hospital during the first three months of the year, 254, or 78 per cent., were under five years of age. I do not suppose that the experience of the Eastern Hospital in this respect differs at all widely from that of the other hospitals of the Board. On the other hand, I find from the last three annual reports of the London Fever Hospital that of 240 measles cases treated in that institution during the years 1908, 1909, and 1910, only 18, or 7 per cent., were under five. It would seem, therefore, that a very small number of children are admitted to the London Fever Hospital. These two facts alone go a long way towards explaining the difference in the fatality of the cases treated under the two authorities.

So far I have been writing on the assumption that the figures given in your paragraph are correct. Whence the writer of the paragraph obtained his information I do not know. But I have every reason for believing that the figures are uncorrected—uncorrected, that is to say, in respect of errors of diagnosis and in other directions. To the courtesy of the Resident Medical Officer of the London Fever Hospital I am indebted for the information that of the 514 cases of measles stated in your paragraph to have been treated in that hospital, no fewer than 70 per cent. were cases of rubella, a disease of which a fatal case is hardly ever seen. If this be so—viz., that the figures given in the paragraph are uncorrected, it is quite obvious that they are useless for the purpose of comparing fatalities. But, for the reasons I have given above, I should expect to find a very marked difference in the fatality of cases of measles treated in the London Fever and Asylums Board hospitals. And further, I may be allowed to point out that the Asylums Board began to take in measles for the first time, almost in the middle of an epidemic of, I believe, unparalleled severity so far as the metropolis is concerned.

I must apologise for the length of this letter. But the paragraph in your last issue institutes a most unfair comparison between the Asylums Board hospitals and the London Fever Hospital, and is misleading and, I venture also to say, inaccurate to a degree.

I am, Sir, yours faithfully,

Homerton, N.E., June 12th, 1911. E. W. GOODALL.

*** Dr. Goodall may be assured that the paragraph was not written by an ill-informed person. We agree with him that the striking contrast between the recent case-mortality from measles in the Metropolitan Asylums Board Hospitals and in the London Fever Hospital is mainly the result of class mortality, as was indeed suggested in the annotation referred to. It is, however, disappointing to find that notwithstanding hospital care and treatment the recent case-mortality from this disease and from whooping-cough has been so high. We do not know in what other direction, save in that of diagnosis, the figures require correction.—ED. L.

THE TREATMENT OF SCARLET FEVER BY "MILNE'S METHOD."

To the Editor of THE LANCET.

SIR,—I notice in your issue of April 22nd a paper entitled "Measles: Its Treatment and Prevention," by Dr. R. Milne of Dr. Barnardo's Homes. I am, however, only interested in his reference to the treatment of scarlet fever by similar measures. He mentions Dr. Goodhart, Dr. Bond, and Dr. Seaton as eulogising his work apparently as something new, and another medical man as adopting "Milne's method." I share a fairly widespread objection to the practice of christening

any method of treatment by the name of a medical man. I am far from disparaging Dr. Milne's work, or withholding the praise due to him for having had the courage of his convictions, but he has, after all, only been exceptionally well placed, in charge of large children's homes, for demonstrating the value of this method of treatment. I would ask Dr. Milne if he originally took up the treatment of scarlet fever by inunction with eucalyptus oil and throat swabbing with carbolic oil from his own ideas or if he did not get it from an older practitioner. I ask, because as far back as 1891 my father, the late Dr. Graham of Paisley, took me, then a student, to see a scarlet fever case in a large family of small children, which he was treating in precisely "Milne's method" without isolating the patient from the other members of the family. He impressed the treatment upon me then, as he said that if it was thoroughly carried out one need never fear the spread of the infection to other children. He said that it had always been his practice as he had been so taught by Professor Andrew Buchanan of Glasgow University. If so "Milne's method" cannot be looked upon as a new discovery. I am, Sir, yours faithfully,

JOHN A. GRAHAM, M.B., C.M. Glasg.

Bethulie, South Africa, May 13th, 1911.

THE POSITION OF THE PRESENT REFORM MOVEMENT IN ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—I trust you will allow me to draw attention to an important point, which seems to me to have been strangely overlooked in all the discussions that have taken place on this subject, and which is not even mentioned in the interesting papers by Dr. Hewitt which have lately appeared in THE LANCET. Anyone reading the third paragraph of the memorandum showing the necessity for an Anæsthetics Bill, which runs as follows—

> 3. As the law now stands, any person whatsoever may administer any kind of anæsthetic for any surgical, medical, obstetrical, or dental operation. Numerous fatal cases under anæsthetics have come before coroners' juries, in which quack dentists, or so-called herbalists, devoid of all medical knowledge and training, have administered the most toxic general anæsthetics, such as chloroform, without any of those precautions upon which safety is now known to depend.

—would naturally suppose that the great danger from which the Bill was designed to shield the public was the administration of anæsthetics by quack dentists, herbalists, *et hoc genus omne*, but the really disquieting fact is that only a very few years ago 42 inquests were held in two years by a London coroner on deaths which had taken place after anæsthetics in one of our most famous London Hospitals.

It was further ascertained that in all these cases methylated chloroform had been used, while in another famous hospital of larger size, where there were a larger number of administrations of anæsthetics, but none but pure chloroform was used, nothing like the same fatalities had occurred.

It seemed to me then, and does still, that the reason which was given by the hospital authorities for using methylated chloroform—viz., that it saved the hospital funds some £200 a year—was futile, and that it should be made compulsory on all those who risk human lives by the administration of anæsthetics to them, to use nothing but the purest and the best. I am, Sir, yours faithfully,

Croydon, June 13th, 1911. H. NELSON HARDY.

IN MEMORY OF LOMBROSO.

To the Editor of THE LANCET.

SIR,—Efforts are being made to collect funds for the purpose of erecting a suitable monument to honour the memory of the late Professor Cesare Lombroso at his native place, Verona, Italy. The central committee is at Rome, and consists of distinguished Italian scientists and others. Committees have been formed in many other countries also. It is thought that there are a number of people in this country who would like to contribute a small amount to such a good object, and we have been asked to remit any funds collected for the purpose to the central committee at Rome.

The following gentlemen have allowed their names to be put on the English committee:—Sir John Tweedy, LL.D., F.R.C.S., &c., President of the Medico-Legal Society; Mr. H. Havelock Ellis, the well-known author; Rev. Dr. W. D. Morrison, author of "Crime and its Causes," &c.; Dr. M. Eden Paul, translator of Professor Kurella's biographical sketch of Lombroso; Dr. W. A. Brend, honorary secretary of the Medico-Legal Society. To those who have taken any interest in the great subject of crime and its treatment the name of Lombroso is a household word. Although his views were not accepted in their entirety by scientists, yet he did a great life's work, and his writings on crime and criminals have had a world-wide influence.

Subscriptions will be gratefully received by Dr. Brend, Medico-Legal Society, 11, Chandos-street, W., or by myself, and forwarded to the central committee at Rome.

I am, Sir, yours faithfully,

JAMES SCOTT.

Royal Societies Club, 63, St. James's-street, W., June 12th, 1911.

COLONIAL MEDICAL SERVICES.—*West African Medical Staff:* Mr. J. H. Swan, medical officer, Gold Coast, has resigned his appointment. The following gentlemen have been selected for appointment to the staff: Dr. K. B. Allar (Gold Coast) and Dr. B. Knowles (Gold Coast). *Other Colonies and Protectorates:* Dr. J. J. Hickey, Dr. T. D. Kennedy, Dr. J. R. McVail, Dr. D. A. Ogilvie, and Dr. J. Sharp have been selected for appointment as medical officers with the work of house surgeons in the Straits Settlements. Mr. F. C. Morgan has been selected for appointment as a medical officer with the work of a house surgeon in the Federated Malay States; and Dr. C. J. Wilson has been selected for appointment as a medical officer in the East Africa Protectorate.

THE ROMFORD GARDEN CITY.—We gave a general description recently of the Garden City at Gidea Park in Essex, together with some comments on the laying out of the estate. Through the generosity of Sir Herbert Raphael prizes amounting to 1000 guineas were offered for the best designs, and on June 1st Mr. John Burns presented these prizes to the successful competitors and opened the exhibition, which consists of some 150 completed houses. Mr. Burns said that a year ago they had laid the foundation-stone of the first house for a new community on an ancient estate. On that occasion he had appealed for the hearty coöperation of everyone concerned in the building and planning of the estate, and the response which had been made had resulted in the splendid exhibition of houses which he had now the pleasure of declaring open. The Local Government Board had just obtained the preliminary census figures for 1911, and these showed that in London, to which the district in which he was speaking was an auxiliary dormitory, there was an aggregate decrease of 14,000 persons in the last ten years and that at the present time there were 50,000 empty houses in London. Essex had gained 245 000 people. It was still believed that it was a bad thing for London to have a diminishing population, but he (Mr. Burns) pointed out that there was an advantage in the spreading of the population over a large area. In the last ten years the death-rate of London had been diminished beyond credence, but better than the diminution of the adult death-rate was the enormous reduction in infantile mortality. It was not possible to have a race of strong men and women who lived in slums and houses where their strength was ruined by their environment. The infantile death-rate had diminished from 159 to 103 per 1000 in ten years. The best of all sanitary provision for the people was a good home. Consumption during the last ten years had diminished by no less than 34 per cent. This was mainly due to the activity of local authorities, and the day that the "battle of the bridges" ended with victory for the people, that day consumption, a disease due to overcrowding, received notice to quit. He was glad to open the Gidea Park Garden City, the most beautiful of such places that he had ever had the honour to open, and he hoped that the example set by Essex would be followed in other places. Mr. Burns then distributed the awards, and votes of thanks to Sir Herbert Raphael for his generosity, to Mr. Burns for opening the exhibition, and to the Earl of Warwick for presiding, closed the proceedings.

COMPLIMENTARY DINNER TO MR. BUTLIN.

A COMPLIMENTARY dinner, which was attended by upwards of 200 medical men, was given on Tuesday evening, June 13th, at the Connaught Rooms, to Mr. Butlin, President of the Royal College of Surgeons of England and of the British Medical Association. The chair was taken by Dr. Lauriston Shaw. Among those present were Lord Ilkeston, Sir Alfred Keogh, Sir Thomas Barlow, Sir William Church, Sir Anderson Critchett, Colonel C. H. Joubert de la Ferté, Sir Henry Morris, Sir Felix Semon, Sir John Tweedy, Dr. Edwin Rayner, Dr. J. F. Goodhart, Dr. de Havilland Hall, Mr. D'Arcy Power, Mr. Andrew Clark, Mr. Edmund Owen, and Mr. G. H. Makins.

The Chairman, in proposing the health of Mr. Butlin, remarked that this was the largest complimentary dinner ever tendered by the medical profession to one man. He spoke of the great advantage it was to have Mr. Butlin at the head of the British Medical Association at this particularly trying juncture for the medical profession. The services rendered by Mr. Butlin to various bodies working together for the benefit of the profession—the British Medical Association, the Royal College of Surgeons of England, the Faculty of Medicine of the University of London, the Pathological and Laryngological Societies (now merged in the Royal Society of Medicine)—all offered occasion for the dinner, as did the personal gratitude to Mr. Butlin of numerous colleagues, pupils, and patients.

In his thoughtful and eloquent reply, Mr. Butlin referred to the great crisis that was now overshadowing the medical profession in the National Insurance Bill. This crisis had been by no means unforeseen by the British Medical Association, and the machinery of the Association had been put promptly into motion with a view of eliciting the opinions of the profession at this juncture, and of taking such steps as might eventually prove necessary to give those opinions effect. As a result of this action, which had extended far beyond the limits of the Association itself, such a mass of opinion had been elicited as had never before been secured in regard to any question affecting the profession. Mr. Butlin alluded to the fact that the Chancellor of the Exchequer had thought it worth while to spend two hours in conference with the Representatives of the Association, and he sincerely hoped that every medical body and every individual member of the profession would take care that no action should be taken that was likely to run counter to what had been already accomplished. Unanimity of opinion was absolutely essential. The promoters of the Bill had overlooked, or at least had underestimated, the important fact that there were large numbers of medical men who had practices that contained no persons at all with an income of over £200 a year, and who yet were fairly prosperous and their patients were contented. All these men would be practically ruined by the Bill. To this objection the Chancellor replied that the loss of these patients would be offset under the Bill by the payment which the fund would supply on behalf of persons with incomes of from 15*s.* to 17*s.* a week, who for a long time past had been attended for nothing by medical men out of the goodness of their hearts. But this was a specious answer, for the two classes of patients were not attended by the same medical men, and it was little consolation to A, when ruined by a particular measure, to learn that as a consequence of that measure B was much better off. Mr. Butlin said that trades unionism was just as necessary in, and just as legitimate for, the medical profession as for the legal. At the same time he pleaded against the disposition at present shown in some quarters to threaten and make use of language that could only bring discredit on the Association and the profession. Mr. Butlin concluded an eloquent speech with a few words, which were most warmly received, acknowledging the devoted help that he had received from his wife throughout his career.

ADULTERATED MILK AT BRISTOL.—At the Bristol police-court recently the National Dairy Company was fined £50 and 5 guineas costs for selling milk with a deficiency of about 8 per cent. of fat and with 2·55 per cent. of added water.

THE *OLYMPIC* AND SANITATION AT SEA.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Southampton, June 11th.

THE mooring, the loading, the sailing of the largest ship from the most modern and deepest dock in the world is an event of very great importance. It is the next step in the revolution inaugurated when the giant Cunarders, the *Lusitania* and *Mauretania*, first sailed and won back for England the blue ribbon of the Atlantic. The next card in the game has been played by the White Star Line. They have planned two still larger ships, the *Olympic* and the *Titanic*. The latter has just been launched, the former has already commenced its service. On Thursday, June 8th, a special train took the representatives of the press to view the new deep water dock and the new ship. It is obvious that as ships grow in size the docks will have to be enlarged and deepened in proportion; therefore if the big ship is an advantage suitable docks must be constructed, and Southampton is fortunate in being the first port to provide a dock of such proportions. Within the last 20 years the accommodation of the Southampton docks has more than doubled in size, but what is of immediate interest is the new deep-water dock. Here there are 40 feet of water at low tide, and therefore there are no locks, and the largest ships can come in and out at all states of the tide. These ships can moor alongside the quays, where there are spacious cargo sheds, waiting-rooms, lavatories, and all the conveniences necessary for the passengers and for the examination of their luggage. At high tide there are 53 feet of water, and then the ship stands at such a towering height above the quay that it has been necessary to construct gantries two storeys high, from which the gangway is thrown to reach the entry in the side of the ship. The passengers land on a verandah 18 feet above the ground and pass down broad stairs to be on a level with the train that waits for them. These measurements may give some idea of the enormous dimensions of the 45,000 ton ships.

The Firemen and the Stokehole.

Undoubtedly, with so much space at disposal it should be easier to provide not merely greater comforts but healthier conditions. It is in regard to the latter that my attention was specially attracted. In this respect the problem becomes more important as the most crowded parts of the ship are reached. The first-class passengers always have more room, and are therefore better able to endure any defect that may arise in the ventilating system. On board the *Olympic* the system of ventilation is the same in all parts of the ship. There is some natural ventilation. There are air-cowls that bring air down from the deck of the ship and there are a good many Utley ventilators which let air in through the port-holes even when these are closed. The ventilation in the main, however, depends on 64 mechanical ventilators. These differ considerably in size and force. Some of the motors have 2½ horse-power, others 7½ horse-power, while the circular fans set in motion to propel the air forward vary for the most part from 10 to 30 inches in diameter. These motor-driven ventilators are known as the "Sirocco" fan, and for the engine- or boiler-rooms they attain great power, the diameter being 55 inches. The boiler-room or stokehole and the firemen's quarters always used to represent the worst, the most insanitary part of a ship. Many a terrible description, which was unfortunately too true, has been written of the horrors of the stokehole, where the firemen sometimes even went mad through the terrible heat and the stress of the work. We have a right to expect and a duty to demand that all this suffering endured in the earlier days of steam navigation should disappear as modern improvements are introduced. It is very well to increase the luxury provided for first-class passengers, but it is more necessary to save the life and health of the firemen and the other members of the crew. In regard to the *Olympic*, I was therefore pleased to receive the assurance from the principal engineer that the temperature in the stokeholes was not more than 90° F. The inrush of the air from the ventilators caused a pleasant breeze, but if this was too cold and violent there was sufficient space for the men to be able to stand outside the direct current. As for the old state of things when stokers rushed up on deck to recover from the oppression caused by the fierce heat and thus ran the risk of a fatal chill, that is

but a sinister souvenir of a distant past. Indeed, on board the *Olympic* there is a special arrangement to protect firemen from any exposure to the outer air and to prevent their having any intercourse with other parts of the ship till after they have returned to their quarters and had an opportunity of taking a douche and a tub bath. From the boilers there is a passage which conducts the firemen to the fore part of the ship, and here they have a small spiral staircase constructed expressly for them when going to their quarters. These, of course, I made a point of visiting, and it was a melancholy demonstration of the griminess of the work. The ship had only sailed from Belfast to Liverpool and from Liverpool to London, yet the coal-dust and dirt were everywhere, the doors and walls were stained with it, and all appearance of newness was already effaced. The washing accommodation provided did not prevent this, but fortunately coal-dust, if black, is not injurious. As for ventilation, one ventilator I specially noticed opened so close to a bunk that the fireman who may sleep there is most likely to have it closed. The bunks are very close together, and, when they are all occupied, though each has the regulation space, this does not seem enough. Our regulations with regard to the accommodation for the crews of ships are inferior to those of France, Austria, and other nations, though there does not seem to be any sufficient reason why sailors in the British service should not be as well treated as the sailors serving other countries. Now that ships are so very large more sleeping space might be given in the forecastle.

Third-, Second-, and First-class Luxuries.

While the crew are still packed close together as the steerage passengers used to be, the steerage itself has been abolished, and the word must no longer be employed. It gives offence, and we now only speak of third-class passengers. These latter have separate cabins containing two or four berths which are about the size of the first-class cabins in the cross-Channel services. The second-class berths are very much larger, and, in fact, the second-class saloon, smoking-room, and cabins are more beautifully decorated and larger than those provided on many of the older ocean-going steamers for their first-class passengers. But to return to the crew, I was pleased to note that the cabin stewards were provided with ample washing facilities and with hot baths. To give to the passengers every luxury but to have unwashed men to handle the food and make the beds is a glaring contradiction and shows that cleanliness is but a pretence instead of being an all-important principle. On the *Olympic*, however, this is not so, and the crew, especially the stewards, are provided with every facility to keep themselves clean. Also, so far as it was possible to judge from a visit at a time when no meal was being prepared, the largest kitchen seemed well ventilated and had a wide shaft opening upon the upper deck which was well placed over a huge kitchener. Indeed, in visiting various parts of the ship the general impression arises and grows that much forethought has been displayed over minute details. Then also there is very extensive deck accommodation for the second- and the third-class, while the first-class passengers are treated as if they were all athletes anxious to continue training while on board. They can race up and down both the promenade and boat decks, where they have a clear course 500 feet long. Then they can go to the gymnasium, and by the use of mechanical contrivances obtain the exercise of rowing, or riding, and many other forms of exercise. On another deck there is a swimming-bath quite large enough for a dive and a swim. If this does not suffice, further exercise can be enjoyed in a specially devised racquet court. After that there is a beautiful Turkish bath, a steam bath, electric baths, and extensive facilities for hydropathic treatment. Thus the body can be well exercised and cared for during the whole passage; and if good use is made of all these advantages, combined with the pure invigorating ocean air, a voyage on such a ship should be a powerful restorative to health.

The Ship's Hospitals.

Speaking always from the health point of view, one of the best features of the *Olympic* is its hospital accommodation. In the forecastle there are two small cabins, each with two beds, situated in a specially airy position, which are reserved to serve as hospitals for members of the crew. Then in the third-class part of the ship there is a consulting-room, a surgery and dispensing-room, together with a waiting-room, thus forming a sort of out-patient department for the 1100 third-class passengers the ship can carry. This is a very useful arrangement when there are so many passengers. The main hospital is advantageously situated. It is not reached by any well-frequented passage or corridor. On the contrary, it can only be approached by a flight of stairs that lead to nowhere except the hospital. Therefore, no one has any need to descend the stairs unless he has business with the hospital. Then just outside the door that shuts off these stairs from the rest of the ship there is a motor ventilator that ventilates the hospital and only the hospital, so that the air from the hospital cannot get mixed with that of other departments of the ship. Of course, here the ventilation is by suction; the current travels from the ship to the hospital and from the hospital to the suction fan, which first draws the air out, then propels it overboard through the side of the ship. At the bottom of the hospital stairs there is on one side a door which shuts off two rooms intended for infectious cases. Each room has three berths. On the other or non-infectious side there are four rooms, one having four, the others three berths each, making 19 beds in all. Then there is another little cabin where a nurse can sleep ready to attend to the patients during the night.

The Ventilation Problem.

The great and vexed question of ventilation still remains open, and for my part I have been disappointed too often to venture an opinion after a mere theoretical explanation. Thus I am told experiments have been made and that heated air can be supplied so readily that the whole ship could promptly be converted into a Turkish bath. This I readily believe. By the side of the "sirocco" fans are great drums containing steam coils that act as radiators, and warm air is passed over and through them. The disagreeable character of air warmed by overheated radiators is recognised and there is an arrangement by which fresh air—air that has not been devitalised—is mixed with the warmed air. This is all admirable, and doubtless the 64 motor fans represent enough force to frequently change the air within the ship. But the same defect exists here as on most, if not all, other ships. The air inlets are very small, so that if they are to admit enough air it will have to travel through them at such a rate as, in some cases at least, to create a draught. To what extent this can be avoided it is absolutely impossible to say without living on board and testing how the system works in a practical manner. In this, as on many of their other ships, the White Star Line employ their motors to draw out air, and trust to accident or the Utley port-hole ventilator to supply the fresh air. Perhaps this does not occasion so many draughts. It would require a good deal of personal experience to feel any conviction in the matter. One thing, however, promises well. The engineering staff appreciate the importance of the problem and the ventilation machinery is easily controlled; so that, if enough care is devoted to the question, good results must be attained.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Law and Stillbirth.

A RECENT case and many others connected with the disposal of the bodies of children that are stillborn, or asserted to be stillborn, make it necessary again to draw attention to the remarkably unsatisfactory state of the law on this matter. Not long ago in a town in South Wales a whole series of coffins were found buried in the garden of a house that had at a former period been occupied by an undertaker. In the Manchester case there was evidence that the child had had an independent existence. As the law at present stands a stillborn child may be disposed of in any way that may not constitute a nuisance, since a stillborn child obviously has no legal existence. The suggestions of the committee appointed in 1893 have been lost sight of, or at least not acted on, and they do not appear likely to reach the Statute-book. Nearly 20,000 so-called stillborn children are yearly buried in this country, and of these several thousands at least are interred without any medical certificate. A written statement, even by the mother herself, that the child was not born alive is all that is necessary to authorise the undertaker to carry out the burial. We have accomplished the examination and registration of midwives, but so-called "lying-in homes"

are still unscheduled, and, indeed, are under no kind of supervision. In view of the actualities and possibilities of what is called "stillbirth," and of the frequent revelations in connexion with illegitimate births, the time has come for a thorough reinvestigation with a view to satisfactory legislation.

"Shuttle-kissing."

The Home Office Labour Inquiry Commission appointed to inquire into the alleged practice and dangers of "shuttle-kissing" met in Manchester recently in company with the full executive of the Weavers' Amalgamation. The inquiry will be continued in other towns in order to secure as full and complete information as possible with regard to the truth or otherwise of the agitation that has been so generally raised against the present system of shuttle-kissing in Lancashire weaving sheds. The question discussed had reference to the compulsory substitution or otherwise of the mouth-suction shuttle by the hand-threaded shuttle. On May 24th Mr. E. Sergeant, medical officer of health for Lancashire, presented important evidence to the committee. He stated that he had received information from medical officers of health of 46 districts where weaving was carried on. There seems to be a danger of transmitting such diseases as diphtheria and tuberculosis, as well as contagious diseases of the mouth and throat. Weavers are somewhat liable to phthisis, but to what extent, if any, shuttle-kissing has played a part must be investigated. There can be no doubt, however, that while sucking the weft through the eye of the shuttle particles of irritating dust and fluff get into the respiratory passages and set up troublesome coughs. One result that shuttle-kissing seemed to bring about is caries of the teeth. Few weavers are found with good teeth after the age of 25 years. In America the State of Massachusetts has already led the way to the abolition of "shuttle-kissing" by the passing of an Act under which in 12 months' time the use of the old-fashioned shuttle will be made a penal offence. American manufacturers have recognised the necessity for this Act, and they have now taken a year to arrange for the introduction of improved methods of shuttle-threading which will not involve the use of the mouth. In some places in Lancashire, moreover, self-threaders are already in use, and the sooner they become universal the better. It is to be hoped that as the present shuttles wear out they will gradually be replaced by those of a newer type, which will not involve the application of the mouth to the eye of a shuttle. This practice is not only injurious to the teeth and lungs, but has been proved to be the means of transmission of consumption and contagious diseases. When it is remembered that the quill of a shuttle only lasts about seven minutes and that a cotton-cloth weaver may have six or more looms to attend to, it will be seen that he has to use his mouth about 600 times a day to suck the thread through the eye of the shuttle.

Chloroform in Children's Sweets.

Dr. J. Carter Bell, public analyst for Cheshire, has discovered a new danger of a peculiar and unlooked-for kind to children who eat too many sweets. In his quarterly report to the county council he states that of six samples of sweets analysed by him three contained distinct traces of chloroform. The sale of such sweets should be prohibited.

Opening of a Medical Students' Hostel—"Lister House."

Undoubted advantages accrue to a student of medicine in his final year if he can live close to the hospital and be able to go at any time of the day or night to see accident, emergency, or other interesting cases. To this end two houses have been purchased, furnished, and equipped as a hostel adjoining the out-patient entrance to the Manchester Royal Infirmary in Nelson-street. Accommodation is promised for ten senior students in their final year. Each student has a study-bedroom, and there are certain common rooms. The students are charged 25*s.* a week each inclusive of everything except laundry. The idea of a hostel for students originated with Professor G. A. Wright. There are already six students in residence, and the remainder of the accommodation is bespoke for next October. The hostel has been named "Lister House," and has been opened by Dean Welldon. It is not meant to replace the halls of residence already in existence.

Ashton Infirmary Wants £6000.

The jubilee of the Ashton Infirmary is being utilised for the purpose of raising £6000. The workpeople themselves, being the chief beneficiaries, will do their utmost to help to raise the sum required. The workpeople of Ashton have promised to raise £1000, and the joint committee of Ashton, Dukinfield, Mossley, and Stalybridge hopes to add another £500. The balance is to be made up by collections at the mills and workshops.

Memorial to the late King.

The report of the committee appointed last November to deal with the subject of a memorial to the late King Edward has been adopted, recommending the erection on the infirmary old site of a statue of his late Majesty King Edward VII., at a cost not exceeding 5000 guineas. The rest of the fund will be applied for the relief of the sick and suffering poor of Manchester, subscribers being at liberty to earmark their subscriptions as between the two objects. A committee has been appointed to carry out these resolutions.

June 13th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

National Insurance Bill.

A MASS meeting of medical students of the University of Liverpool held on June 6th expressed the opinion that in the best interests of medical science and its applications to medical practice, as well as for the permanent benefit of the community and future efficient staffing of the medical profession, the new State Insurance Bill should be so amended that State insurance may become a national service instead of a dangerous monopoly under the friendly societies. The meeting urged that clauses should be included in the Bill which should secure:—

1. A thoroughly efficient, and therefore necessarily an adequately remunerated, medical service.
2. A thorough coördination between domiciliary and institutional treatment.
3. A control of medical service of all kinds, both curative and preventive, which shall be out of the reach of friendly societies, and not subject to any undercutting of remuneration, materials, or service by them.
4. A free choice of mutual character between doctor and patient, preserving those human relationships which are so valuable in medical work, but free from all taint of charity or Poor-law administration.
5. Freedom of choice and equality of rights to all insured persons, so that they may freely choose themselves whether they shall join an "approved" society or deal directly with Government, and shall not in the latter case be penalised for preferring the Government of their country to a friendly society.
6. That no monopoly of privileges be given to friendly societies or their officials, and that the maximum amount to be spent on administration, salaries of officials, &c., be distinctly fixed on a proper economic basis.

University of Liverpool: Dutton Memorial Chair of Entomology.

The Council of the University has recently appointed Mr. Robert Newstead to the newly established Dutton Memorial Chair of Entomology, founded by subscription in memory of Dr. J. Everett Dutton, who lost his life upon one of the early scientific expeditions of the Liverpool School of Tropical Medicine. The new professor has had a distinguished career and is widely known for his original work in entomology. He has held the post of lecturer in medical entomology and parasitology in the School of Tropical Medicine since 1905, prior to which he was for many years curator of the Grosvenor Museum, Chester. Mr. Newstead has been on expeditions to Jamaica and Malta, and has made several special investigations in England, the results being of much scientific value. It is singularly appropriate that this chair should be associated with the name of another distinguished Chester scholar, the late Dr. J. E. Dutton. To the School of Tropical Medicine and to Professor Sir Rubert Boyce, the dean of the school, are due the thanks of the University for their efforts in collecting the funds necessary for the foundation of the memorial professorship.

Medical Students' Debating Society: Professor Benjamin Moore and State Insurance.

Professor Benjamin Moore, of the University of Liverpool, delivered an address at the Medical Students' Debating Society on June 6th, the subject matter being the State Insurance Bill. Professor Moore said he welcomed the Bill as a social reformer, but unless certain changes were made in its present form it would work greater evil than good. His

chief objection to the Bill was that it handed over the business of the medical profession to the friendly societies as a huge monopoly.

The New Honorary Surgeon to the Liverpool Royal Infirmary.

Mr. T. C. Litler Jones, F.R.C.S., senior assistant surgeon, has been appointed to the post of honorary surgeon in succession to Mr. F. T. Paul, F.R.C.S., who retires under the law regulating the age-limit of service of the honorary staff. Mr. Litler Jones was appointed honorary assistant surgeon in February, 1903.

The New Medical Officer of Health of Bootle.

Dr. William Allen Daley has been appointed medical officer of health of Bootle in succession to his late father, Mr. William Daley, who lost his life three weeks ago under the tragic circumstances recorded in THE LANCET of May 27th. The newly appointed medical officer of health is only 24 years of age. He graduated B.Sc. (first division, with honours) and M.B., B.S. (distinction in medicine) at the University of London. At the University of Liverpool he graduated M.B., Ch.B. (with first-class honours). He has held posts at the Liverpool Royal Infirmary and Children's Infirmary.

Presentation to Dr. Alexander Craigmile.

Dr. Alexander Craigmile, who recently retired from the post of honorary physician to the Victoria Central Hospital after a period of service of 35 years, has been presented with his portrait in oils by the hospital committee and a number of friends. The presentation was made by Mrs. George H. Peers, wife of the chairman of the hospital committee, in a felicitous speech. Dr. Craigmile was associated with the institution when it was known as the Seacombe Cottage Hospital, and his retirement occurred in accordance with the constitution of the hospital regarding the age-limit.

June 12th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Housing in South Wales.

IN spite of the large number of workmen's dwellings which have been erected in certain parts of South Wales during the past few years, notably in the Rhondda valleys, there is still an insufficiency of this class of dwelling. At Merthyr an experiment is to be made in the construction of small houses built of concrete blocks made from the granulated slag from the tips of the ironworks. A former resident of the borough has given £500 towards the cost of the buildings, which, it is expected, can be erected at £100 each. At Llanelly an estate large enough to accommodate 250 houses has been laid out for the erection of dwellings in blocks of four, and a scheme of the council for the provision of municipal dwellings is now awaiting the sanction of the Local Government Board. In order to assist municipalities and building societies and clubs, a Housing Reform Building Company has been formed. Professor Stanley Jevons has resigned his position as professor of economics and political science at the Cardiff University College in order to become managing director of the company, which will not undertake speculative building, but will take the initiative in securing contracts and arranging for the laying out of sites on behalf of municipalities and building societies. Except under special circumstances the company will not deal with less than 50 houses, and it is proposed that the majority of those erected shall contain a living room, a parlour, and three bedrooms. A certain proportion will be fitted with baths, and wherever practicable electric light will be installed.

Cardiff and County Public Health Laboratory.

The public health laboratory, which was established 12 years ago jointly by the Cardiff corporation and the Glamorgan County Council, has been since its formation under the joint directorship of Dr. E. Walford, the medical officer of health of Cardiff, and, until his death, of the late Dr. William Williams, medical officer of health of the county of Glamorgan. It has now been decided to rearrange the administration of the institution. The bacteriological department will be undertaken by the Cardiff University College under the direction of Professor Emrys Roberts, while Mr. J. A. Sugden, who for several years has had charge of the chemical department, will be the chief official of the laboratory and will be provided with an assistant. The importance of such an institution in a district like Cardiff can hardly be over-estimated, for entering the port are vessels from all parts of the world, and when some of these have come from foreign infected ports the staff of the laboratory has been able to reassure shippers that rats found on board were not plague-stricken.

Medical Referees under the Compensation Act.

An important question with regard to medical referees under the Compensation Act was recently raised at the Cardiff county court. A seaman upon whose case the medical referee had reported to the court had been granted compensation. Subsequently, the medical referee in his private capacity and on behalf of the man's employers, desired to make a further examination of the man, who refused to submit to it. Upon this the employers applied to the court to terminate the compensation. The judge, in dismissing the application, spoke of the question as an interesting one, and was evidently desirous that it should be settled by appeal to a higher court.

Extensions to Swansea Hospital.

The foundation-stone of extensions to Swansea Hospital, to cost £30,000, was recently laid, and after the ceremony Professor Osler referred to the necessity in such an institution of a well-organised clinical laboratory in which pathological and bacteriological work could be carried out upon the spot. He further urged that the influence of a hospital could be enormously extended by associating with it social service. What was required was social diagnosis and social adjustments, without which ill-health and suffering could not be ameliorated. When there was a social service associated with a hospital the doctor could say to his patient, "Go to the social department," and then a visitor would go to the patient's house and at once put into operation the proper charitable organisations.

The Coronership of the Lower Division of Gloucestershire.

Mr. Alfred Henry Grace, L.S.A. Lond., is a candidate for the post of coroner for the Lower Division of Gloucestershire, rendered vacant by the death of his uncle, the late Mr. Edward Mills Grace. Mr. A. H. Grace has for some time acted as deputy coroner for the division.

The National Insurance Bill.

The members of the medical profession in the West of England held meetings last week in Bristol, Bath, Bodmin, Exeter, and Plymouth to discuss the National Insurance Bill. There was a large attendance at each of the gatherings, and all unanimously passed resolutions expressing disapproval of the methods of providing medical benefits proposed in the Bill, and especially of the proposal that these benefits should be administered by the friendly societies.

A Most Frivolous Case.

At the last meeting of the Weston-super-Mare county court, before His Honour Judge Austin, Mr. G. W. Pauli, a medical practitioner, sued a local tram-driver for 2 guineas for professional services rendered to his wife. The defendant, who conducted his case in person, made a somewhat incomprehensible statement. His chief grievance appeared to be that, although his wife was suffering from diphtheria, "she had not been allowed to leave her residence." The man also appears to have made some remarks reflecting upon Mr. Pauli. His honour, in giving judgment, with costs, for the plaintiff, said that the defendant's objection to settle the claim was "one of the most frivolous that had ever come before him," and Judge Austin added that a person who "spread foundationless reports about a medical man exposed himself to the gravest responsibility."

Honour to the Memory of a Distinguished Cornishman.

At the Swansea General Hospital on May 25th Professor W. Osler, Regius professor of medicine at Oxford University, unveiled a brass tablet which has been placed there as a memorial to his late uncle. The inscription was as follows: "To the memory of Edward Osler, M.R.C.S., F.L.S., House Surgeon of this Hospital in 1825. Born at Falmouth, Jan. 30th, 1798; died at Truro, March 7th, 1863." Professor Osler, in the course of an interesting address, gave some reminiscences of the life of his uncle, who was editor of the *Royal Cornwall Gazette* from 1840 until his death. He was also a well-known hymn writer.

June 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Dundee Parish Council and Medical Officer.

Dr. T. F. Dewar, medical inspector of the Local Government Board, has now reported on the charge of alleged negligence brought by the Dundee parish council against one of its medical officers, Dr. Tulloch. In February last a message was sent to Dr. Tulloch at 3 o'clock in the afternoon from the offices of the parish council, asking him to call at a certain house. Dr. Tulloch did not see the case until 9 o'clock at night. The patient, who was suffering from cerebral hæmorrhage, died at 10.30 the same evening. The parish council passed a vote of censure on Dr. Tulloch. The latter appealed to the Local Government Board, and it concurs in the report of its medical inspector, Dr. Dewar, now prepared. In his report Dr. Dewar states that he formed the following conclusions: "I failed to satisfy myself that the action of the staff of the parish council was in any way remiss or negligent. I think it desirable that in future, when there is occasion to transmit an urgent or otherwise important message by telephone to any of the medical officers, the clerk concerned should elicit a definite reply as to whether the medical officer is at home or at hand, and that failing an affirmative reply a request for attendance should be made to one of the other medical officers. So far as Dr. Tulloch is concerned, I am satisfied that the unfortunate delay which occurred was attributable to a series of mischances, and that he did all that could reasonably be expected. His unusually protracted absence in the afternoon, the considerable number of patients requiring his attention in the evening, his dubiety as to the relative urgency and importance of the two parish council cases requiring to be visited, and his selection of the more distant case for the first visit were all incidents which, as it proved, were regrettable and unfortunate. None of them, in my opinion, can be properly regarded as involving blame. It has certainly not been brought home to me that at any point he showed negligence or indifference. Finally, it seems right to point out, although I am well aware that this bears only indirectly on the merits of the question, that, as it fortunately happened, the patient suffered in nowise from the delay. The effects of an attack of cerebral hæmorrhage, which causes death within 48 hours, cannot be averted by any amount of medical experience or skill." Dr. Tulloch is to be congratulated heartily on a report that clearly shows that he had received unjust treatment.

Death of Dr. Moses Thomas.

By the death of Dr. Moses Thomas last week Glasgow has lost one of the best-known members of the medical profession resident in the city. Dr. Thomas, who was in his eighty-second year at the time of his death, completed his education at Anderson's College, Glasgow, and became a Licentiate of the Faculty of Physicians and Surgeons in 1857. In 1862 he graduated as Doctor of Medicine at the University of St. Andrews, and in 1871 he became a Fellow of the Faculty of Physicians and Surgeons in Glasgow. For a time Dr. Thomas was house surgeon at Greenock Infirmary; afterwards he was medical superintendent of Barnhill Poorhouse, but it was in 1867, when he was appointed superintendent of the Royal Infirmary, Glasgow, that he entered upon that part of his career which brought him more prominently before the public and which was only terminated in 1902 by his resignation on account of advanced age. He was not connected with the Royal Infirmary early enough to see Lister begin his great work in antiseptic surgery, but he had the chance of watching the progress of the work as it was taken up by the various surgeons in the different wards. In 1874 he published a complete account of the results of amputation in the Royal Infirmary for the preceding eighty years, and showed conclusively the enormous improvement due to the adoption of Lister's methods, which ever since then have undergone a great advancement. He also wrote on the subject of delirium tremens. During Dr. Thomas's long tenure of office at the Royal Infirmary the system of hospital nursing was entirely revolutionised. The Royal Infirmary was the first hospital in the kingdom to begin to carry out the great reform in nursing, and to Dr. Thomas at least part of the success of the new scheme is due. Dr. Thomas retired from his position at the Royal Infirmary in 1902, after serving for 35 years, and for a number of years had been in rather poor health. He was known and respected by many succeeding generations of medical men who as resident surgeons in the Royal Infirmary came under his influence.

Colony for Glasgow Epileptics.

The Glasgow parish council proposes to erect a colony for epileptics at Muckroft on a piece of ground at a short distance from the city, and rented from the Glasgow district lunacy board. The plans provide for the erection of four villa blocks to accommodate a total of about 200 patients, with provision for the erection at a later stage, if necessary, of two additional blocks. The total cost is given as £43,520, equal to a cost of £176 per bed in the building of four villa blocks with administrative buildings for six villa blocks, and a cost of £145 per bed should the whole six villa blocks be proceeded with.

Bequest to the University of Aberdeen.

The late David Mackay, M.D., Brigade-Surgeon, Army Medical Service, on the retired list, who resided in Aberdeen, has left the Royal Lunatic Asylum in Aberdeen £250, and the sum of £500 to the University of Aberdeen Endowment Association for the purpose of founding a bursary in the Faculty of Science.

June 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

AT a meeting of the College, held on June 12th, the following were elected for the ensuing year:—President: Mr. Robert H. Woods. Vice-President: Mr. Richard D. Purefoy. Secretary: Sir Charles A. Cameron. Council: Sir Henry R. Swanzy, Mr. William Stoker, Sir Charles A. Cameron, Mr. John B. Story, Sir Charles B. Ball, Sir Thomas Myles, Sir John Lentaigne, Sir Arthur Chance, Sir Lambert H. Ormsby, Mr. Henry G. Sherlock, Mr. R. Bolton M'Causland, Mr. F. Conway Dwyer, Mr. R. Lane Joynt, Mr. William Taylor, Mr. Edward H. Taylor, Mr. R. Charles B. Maunsell, Mr. William Ireland de C. Wheeler, Mr. Thomas E. Gordon, and Mr. Alexander J. M. Blayney.

The National Insurance Bill.

On June 8th, at a meeting of Fellows and Licentiates of the Royal College of Surgeons of Ireland held in Dublin, the President, Mr. Robert H. Woods, in the chair, the National Insurance Bill in its present state was strongly condemned, and amendments were suggested, much in the same direction as those proposed at meetings of the profession in England. A committee was appointed for the purpose of advising the College Council with regard to such modifications of the Bill as might be suggested in its passage through Parliament. On Friday, at the annual meeting of the Leinster Branch of the British Medical Association, similar resolutions were adopted; and at a meeting held on the same day in the College of Surgeons delegates from all parts of Ireland, called together by the Irish Medical Association, decided to hold a mass meeting of the members of the medical profession in Dublin on June 30th to protest against the Bill, and to suggest modifications in its clauses. In the meantime an interrogatory paper is to be addressed to every member of the profession asking his opinion as to the amendments that should be demanded.

Reforms in Trinity College.

In its report some years ago the Royal Commission on Trinity College recommended certain reforms as advisable in order to bring the constitution of the College into closer relation to modern ideas and conditions. After much deliberation and some opposition, the board applied for a King's letter, an application which His Majesty was pleased to grant two weeks ago. The letter inaugurates several important reforms. The board or governing body is no longer to consist of the Provost and seven senior Fellows, but is to contain in addition two junior Fellows elected by the junior Fellows, and two professors elected by the professors. This governing body is to have the power of making statutes for the University, a power vested

in the Crown since the time of Charles I. Election to Fellowship is not, in future, to be necessarily dependent on the results of an examination, but the board may elect or not, as is thought fit, and may at any time elect a professor of the University to a Fellowship. The board is also to have power to elect persons of distinction in science or literature as honorary Fellows. Certain changes are also made in the government of the Divinity School. The alterations in the constitution are not likely to result in any startling revolution, but they at least remove restrictions which tended to hamper free development. The chief drawback is the preponderating influence retained by the Fellows as against the professors, and the consequent lack of representation of the interests of the professional schools. The work of the professors is chiefly concerned with the schools, while that of the Fellows is with the course in arts.

Health of Lurgan.

Dr. S. Agnew has issued his report as medical officer of health of Lurgan for the past year. The death-rate was 17·5 per 1000; the birth-rate was 29·5. The deaths from phthisis were only 25 (in a population of 11,782), a number smaller than in any of the previous ten years. The infantile mortality was only 10 per 1000 births, which spoke well for the care and treatment which the children in the district received. Dr. Agnew is to be congratulated.

June 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The French-speaking Congress of Medical Jurisprudence.

THE French-speaking medical jurists, being of opinion that the international medical congresses, while they provide a section of legal medicine, do not offer adequate opportunities for the meeting of a large number of the specialists therein with a view to fruitful consideration of interesting special subjects, have united, at the instance of M. Thoinot, professor of medical jurisprudence at the Faculty of Paris, in the establishment of a special congress, to convene annually about the end of May in some French town or French-speaking country. To this congress all doctors of medicine engaged in a medico-legal capacity of any kind whatever, as well as lawyers, whether advocates or magistrates, of France or any French-speaking country, are admissible. French will be the only language used at the congress. Students of medicine are included, and persons of the families of official members may be admitted as associate members. The first meeting of this Congress was held at the Faculty of Medicine on May 29th and 30th last, under the presidency of M. Thoinot. There were present 120 persons, among whom, in addition to almost all the medical jurists of France, were a large number of Belgian and Swiss specialists. Some interesting papers were presented, of which special mention may be made of those of M. Corin (Liége) on the recognition of infinitesimal quantities of blood by the hæmatochromogen spectrum; of M. Dervieu, on biological researches concerning old blood stains (the mummy of a young girl who lived some 4000 years ago being chosen for a study); of M. Mégevant (Geneva), on lysol poisoning; of M. Leclerq (Lille), on anaphylaxis in medical jurisprudence; of M. Thoinot, on sudden death from the accidental entrance of foreign bodies into the respiratory passages; of MM. Balthazard, Ribierre, Dupré, Régis, Mesnard, and Paul. The congress also occupied itself with the professional interests of medical jurists, and particularly with the reform of experts' fees, the newly created diploma in legal medicine, to which the courts appear not to attach adequate importance, and other similar matters. The session of the congress lasted two days. Next year the congress will meet on the last Monday in June. Professor Lacassagne of Lyons has been nominated president, and MM. Gilbert Ballet (Paris), Lande (Bordeaux), Corin (Liége), and Dr. Vibert vice-presidents.

The French Red Cross.

The societies for aid to the wounded which constitute the French Red Cross Society are making strenuous efforts in relation to the Moroccan campaign. On Sunday, June 18th, the ladies and young girls affiliated to this society will sell for 10 centimes in Paris, in accordance with methods already adopted in Belgium, England, Germany, and Switzerland for the speedy raising of funds, a little blue flower, in aid of the expenses of the society in regard to the ambulances in Morocco. There is no fear that the public will fail in its habitual generosity. Nevertheless, the medical profession, as THE LANCET has already had occasion to point out, has not always regarded with unmixed favour the extension of the activities of this body, so far as regards the establishment, to the detriment of the local physicians, of hospitals and dispensaries for persons not in indigence. In the quarter in which the Hospital of the Society of Frenchwomen is situated the medical profession has seen the disappearance of two-thirds of its sources of remuneration. Now it is the turn of the army medical service to complain. The political press has published extremely eulogistic articles about the society, in which the 10 or 12 ladies who accompanied a comfortably found ambulance to Casablanca are represented as having by themselves established a sanitary organisation, as though, indeed, nothing would have been done without their intervention. The military medical service, with its staffs of medical officers and nurses, has been long annoyed at what it regards, with some justice, as a notoriety-seeking bluff on the part of certain persons who are as encumbering as they are useless. Inasmuch as the military medical officers are debarred from protesting publicly, Dr. Robert, a former inspector-general now on the retired list, and consequently free to express his opinion, has protested in the press against these exaggerations. He calls attention to the injustice of relegating to the second place the military surgeons and nurses who are exposed to actual danger in favour of fashionable ladies who play at nursing from a place of security. As though to confirm his protest, a few days later Surgeon-Major Auvert was killed in Morocco while passing under the enemy's fire to dress a wounded man, so that he might be removed from the zone of action. No one, indeed, denies the generous feeling which animates the body of kindly people who devote themselves to works of charity; and in times of peace indulgence may properly be shown to some manifestations of vanity. But their rôle is necessarily an auxiliary one, and it is important that each party should remain in its proper place.

Dr. Variot's Institute of Puericulture.

On June 8th was inaugurated, at the Hospice des Enfants Assistés, the Institute of Puericulture, founded by the Consul-General of the Seine and the Municipal Council of Paris, thanks to the persevering exertions of Dr. Variot, who, since 1908, has urged the foundation of this institution, and who first gave it its name. The inauguration took place in the presence of a great concourse of medical and political personages, and numerous addresses were made in praise of the labours of Dr. Variot. The new institute will have all the necessary equipment to make it a model establishment. The hospital organised by Saint Vincent de Paul to take charge of deserted infants was naturally destined to undergo this modern transformation. Besides the quarters allotted to the children and their nurses, there is also a consultation room where mothers who nurse their own infants may regularly bring the latter to the physician and receive without charge sterilised milk to aid them in their duty. Laboratories of pathological anatomy, bacteriology, and radiology will be attached to the institute, which will contain also a special laboratory for the investigation of milk. Finally, courses of instruction in puericulture will be established for young girls, mothers, institution officials, and nurses, and a certificate of proficiency in infant hygiene will be awarded after adequate examination.

June 12th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Precautions against Plague in Germany.

THE Association of the Prussian Government Medical Officers held its annual meeting in Berlin recently, when Dr. Kirchner, a member of the Central Government Medical Department, read a paper on the precautions to be taken against plague. After a short review of the history of plague he said that the present epidemic of the disease did not differ from other epidemics, and that the prevalence of

the pulmonary form of plague was due to the fact that the outbreak occurred in the winter. Pulmonary plague being conveyed by droplets of condensed moisture, as shown by the unfortunate infections of medical men and attendants in laboratories, it must necessarily be more frequent in winter, when the population lived more at home in overcrowded dwellings, whilst bubonic plague was prevalent in summer, the virus being introduced through lesions of the unprotected skin by bites of insects. Dr. Kirchner considered that the statements which had been made as to the suppression of plague in China were erroneous; it was not improbable that invasion of the lungs had become less frequent with the approach of the warm season, but a recurrence of the epidemic might be expected next winter. Active immunisation by Haffkine's method was apparently efficacious for about six months—a period which was sufficient for the purpose, because the disease seldom prevailed for more than five or six months at a time. In the event of an imminent epidemic the Government intended to make immunisation compulsory for medical men, nurses, disinfectors, undertakers' men, and other persons similarly employed. Immunisation, though not efficacious in every case, was protective in a high percentage of cases, and made the course of the disease less fatal. Passive immunisation by Yersin's method was efficacious for a fortnight only. A combination of both procedures was to be recommended. The essential point, however, was prophylaxis. Dr. Kirchner said that India was the starting point of the present epidemic, but that preventive measures were very difficult in that country, partly from the unhealthiness of the dwelling-houses and partly from the religious prejudices of the natives forbidding the killing of animals by which the virus was conveyed. He also referred to Egypt, where in the year 1905 there were only three or four infected places, but at the present time there were 30. Egypt was for Europe of course a much more dangerous plague centre than India owing to the increasing traffic with the former country, where every year thousands of European visitors were in the habit of staying for some time. Germany had provided for seven quarantine stations—four on the Baltic and three on the North Sea. They were connected with isolated pavilions for the sick, for suspected cases, and for cases under observation. Moreover, in these stations there were installations of apparatus for destroying rats on shipboard by means of carbonic oxide without discharging the cargo. The best method of prophylaxis was, however, the ensuring of healthy conditions in dwelling-houses. In country places the hospitals ought to be provided with isolated pavilions and with a trustworthy staff of disinfectors. The causes of the disease, and the way to avoid an infection in the event of an epidemic, should be explained to the public, who would then be more likely to have confidence in the prophylactic measures ordered by the Government.

Psychical Disturbances due to Bodily Injuries.

Professor Meyer of Königsberg, writing to the *Deutsche Medizinische Wochenschrift*, reports some interesting observations which he had made on the psychical state of injured persons. He examined 87 patients, of whom all but three suffered from severe injuries of the head or general shock; 25 of them showed psychical troubles, which in five instances were of a severe character. The 18 patients with slighter troubles had no perception of time, whereas the perception of locality was seldom impaired and not for more than a short time. The disorientation seldom continued longer than for one or two days. Mistakes or forgetfulness relative to personal attributes were seldom observed except that some of the patients could not tell their age or their residence. It was remarkable that these psychical troubles were not manifested in ordinary conversation, in which the psychical state of the patient was quite normal, but could only be elicited by careful examination. In the majority of cases the faculty of perception was defective, as was shown by various tests, including easy problems in arithmetic. An abnormal fatigue was very characteristic, leading in one case to a state of stupor, which continued for about a week. A number of the patients imagined themselves to be quite well, and their inability to understand the seriousness of their condition was in striking contrast with their bodily injuries. In the five cases with exceptionally severe psychical troubles the pathological symptoms included abnormal loquacity, as well as aphasia, alexia, agraphia, and movements of embarrassment and incoördination. The patients regained their normal mental condition after a relatively short time, two cases excepted, in which a permanent psychical defect developed.

June 10th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Decrease of the Death-rate of New York.

THE Chief Commissioner of Health, Dr. Lederle, reports the death-rate of New York for the first three months of this year as below the rate for the corresponding period last year and considerably below the average for similar periods for the past five years. This year it was 17 per 1000, against 17·45 in 1910. The average for the first three months of each year for five years was 18·33 per 1000. There has been a falling off in infant mortality, an increase of deaths among old people and from heart disease, and a decrease in tuberculosis, pneumonia, Bright's disease, and suicide.

Farm Colony for Vagrants.

At a recent meeting of the New York State Board of Charities, in view of the increase of vagrancy, which is more common than ever before, the adoption of the State farm colony plan, provided for by the Charities Bill now before the State Legislature, was urged.

American Association for the Conservation of Vision.

An association has been incorporated in New York to study and investigate conditions and causes which result in blindness and impaired vision and the relation of eyestrain to physical and mental health and human efficiency, and to devise means to prevent blindness.

The Medical Witness in the United States.

At a meeting held recently at the New York Academy of Medicine the question of medical witnesses in the United States was discussed. In the United States the medical expert is more to the front than in any country of the world. The need of reform has been evident for years and sporadic attempts have been made in some States to introduce radical changes, but only three or four States have amended the law in this direction. A paper was read by the Hon. Justice Clearwater, a New York judge, who had taken great interest in the question of medical witnesses, in which he scathingly arraigned the present position. The most grave defect, he said, in the existing system was that each party to a law case pays for his own expert testimony, and that even an honest witness can scarcely be unbiased. His position and that of the counsel thus became almost identical. Furthermore, it is not in the interests of right that the question of a medical man's competency to serve as a medical witness should be determined by the judge. Judge Clearwater inveighed against the sensational character of many trials nowadays, which he considered frequently the fault of the judge himself. Trials for homicide and will cases provided the most fertile field for disingenuous medical testimony. When large sums were left to charity or to individuals who were not relatives the latter contested the will, and according to Judge Clearwater medical men could be found to testify for the sake of gain to the mental incompetency of the devisor. Consequently the term "medical expert" has become somewhat of a by-word in the United States. But Judge Clearwater was severe also on the methods of counsel, whose sole aim appeared to be not to get the truth, but to badger and worry opposing medical witnesses into contradicting themselves. He appeared to be in favour of medical witnesses being paid by the State, so that their sympathies or interests should not be bound up in either party to a cause. Two Bills, supported by Judge Clearwater, to reform existing laws as to medical testimony in New York State have failed to pass the Senate, and another Bill of a like nature will be introduced next session. Dr. Charles Dana also read a paper in which he laid the blame on the legal profession. He urged that before a medical man should be permitted to act as a medical witness he should be compelled to prove the possession of qualifications to do so. In the subsequent discussion by a large number of medical men it was generally agreed that the existing situation regarding medical testimony was

unbearable and a slur on the medical profession, and suggestions were made with a view to improving matters.

American Medical Editors' Association.

The forty-second annual meeting of the American Medical Editors' Association will be held in Los Angeles on June 26th and 27th, under the presidency of Dr. J. MacDonald, jun., of New York. Among the papers to be read are the following: Relation of the Medical Press to the Public Health and Marine Hospital Service, by Surgeon-General Walter Wyman; The Advisability of Newspapers and Magazines having Medical Editors on their Staffs; The Medical Reporter from his own Standpoint, by Dr. E. Franklin Smith; What Shall we Publish? by Dr. J. R. Phelan; Medical Expert Testimony, by Dr. R. B. H. Gradwohl; The Literary Side of Medical Journalism, by Dr. T. D. Crothers; the Influence of Medical Journalism on Medical Progress, by Dr. W. Benham Snow; and Editorial Independence, by Dr. T. G. Atkinson.

June 5th.

Obituary.

ALEXANDER BRUCE, M.A. ABERD., M.D. EDIN., LL.D., F.R.C.P. EDIN., F.R.S.E.,

PHYSICIAN TO THE EDINBURGH INFIRMARY.

Dr. W. Leslie Mackenzie, Medical Member of the Scottish Local Government Board, has sent us the following eloquent obituary notice of the late Dr. Alexander Bruce:—

Dr. Alexander Bruce died at his home in Edinburgh on Sunday, June 4th. To many of us the news was not entirely unexpected, but for all of us there is now a blank that this generation cannot fill. Dr. Bruce was a man of exceptional mind and character. He was a typical product of the race and civilisation of Buchan, the long open land of East Aberdeenshire, where the people are marked by their untiring energy of mind and body, their uncompromising independence of character, their unostentatiousness of life, and their unlimited ambition and desire of knowledge. Bruce had all these qualities in their highest degree. His very early days I am not familiar with, but when I was a student of Arts at Aberdeen Bruce's name was already a bright tradition among us. He entered King's College, Aberdeen, in 1870 as first bursar. Only the Aberdonian of 30 years ago can give that distinction its true meaning. To have a "first" at the "Comp." (the only real name of the Bursary Competition) was the ambition of every important schoolmaster in Aberdeenshire. It meant a career to the scholar. Success at the "Comp." was possible only to the capable classical boy, and Bruce was one. He ended a brilliant course at Arts with the Simpson Greek prize (the blue ribbon of classics at the University), the Seafield Medal in Latin, and the Town Council Medal to the most distinguished student of his year. Had he chosen to remain a student of classics, he might have followed in the long line of Aberdeen men who have made names for themselves in the "arenas of the south." But, fortunately for the science of Europe, he preferred the richer new fields of medicine. And to those that knew him as I did there could be no doubt that that was his real field. He had the positive scientific mind, the sure-footedness of the born investigator, the unlimited capacity to make hypotheses, the faculty of exact analysis of data. Given these and a man will end in science, no matter what the bias of his literary studies may be.

At Edinburgh Bruce showed the same capacity as at Aberdeen. This is a proof of his all-round mind. He ended a brilliant medical course with the chief prize of the year—the Ettles. Afterwards he went to Vienna, Heidelberg, Frankfort, and Paris. His scientific curiosity was as untiring as his capacity for work. Work was his passion, and one cannot but feel that here was the defect of the Aberdeen quality; for more than once after talks with him I felt that he was encroaching too much on his physical reserves. He never relaxed the pressure of his student days, and none but his fellow-students can know what that meant. He received, as one would have expected, a gold medal for his M.D. thesis. He acted for a time at the West Riding Asylum, which has been a school for many distinguished neurologists. When he returned to practice in Edinburgh he specialised in pathology. I remember well his masterly review of Hamilton's fine text-book. Gradually he became more and more devoted to the nervous system, and it is not too much to say that by his death Europe has lost one of her most capable neurologists. And how his mind was filled with the points of his infinitely delicate analyses of structures! One night, as we came away from the meeting of the Edinburgh Aberdeen University Association, an annual re-union that he never missed, he came with me nearly all the way down to Trinity and opened to me the mysteries of the intermedio-lateral tract. I cannot forget the quiet, gentle voice, the masterly grip of detail, the untrammelled scientific scepticism that was ready to discard a disproved idea, the intellectual passion that drove him forward. Bruce was a strong, shy man without show, and the deserted street at midnight with one sympathetic hearer was all to his mind. The rush of life made these talks all too rare, but he had the winning kindliness of spirit that drew us all to him. He had the genius of friendship. He was the least patronising of men. He lived in a mental world where only quality of mind and character counted, and he rejoiced in the rising generation of well-equipped men.

As a consultant Bruce brought to each case all his quiet powers of analysis, sure-footedness, and speculation. Once I took a friend to him for some nervous trouble. It was an education in method to watch the application of systematised knowledge to the special peculiarities of the individual. He spent a leisurely hour out of a busy day going from point to point and fitting the idea to the fact. The mind of the somewhat excited patient gradually slid into the same quietness as possessed the consultant himself, and when we came away there was a happier and more satisfied man. And this is a tale repeated by many others. He was a favourite with the general practitioner. As a teacher he showed the invincible clarity that comes only of mastered facts and theories. He did not let the details of his own special investigations overload his clinical teaching. I never had the privilege of being his student, but I know that his thoroughness of method and his unostentatiousness of manner were warmly appreciated. His special work as a neurologist is well known to the profession. His "Illustrations of the Mid and Hind Brain" and his "Topographical Atlas of the Spinal Cord" are acknowledged as among the finest things of their kind. He gave an enormous amount of time and energy to the *Review of Neurology and Psychiatry*. One always felt that it was a profound pity that this irrepressible instinct for research had to work in the hampering conditions of an exacting consulting practice. But Bruce never lost his intellectual enthusiasm. To the last he was at his work.

I think of him less as the consulting physician than as the man of the "Virchow" build, the unresting scientific mind converting all his experience into science, yet not forgetting the fundamental human issues. In his early career he must have had many a hard day. He told me once how the consultants of his junior days would ask him out to do post-mortem examinations and compliment him on the "extraordinary enthusiasm of you scientific fellows," but they never offered him a fee! They conveniently forgot that he had to live as well as to think. But there was no bitterness in Bruce's character. His kindliness broke through and modified his whole life. That is what all of us feel most now that he is with us no more.

The last time I had a long talk with him was at the Common Room Club, where his geniality was welcome. And at that time he was most interested in cheap houses for working men in the country, and wished to know how the town-planning movement would help the rural areas. He was thinking of the dunes of Cruden where he was born, and the broad farms of Buchan. He had bought an estate there and, like the idealist he was, he could not rest unless his people had the best in life and housing that he could afford to give them.

"His eyes were with his heart and that was far away."

He was an Aberdonian through every fibre of his nature. He loved the life of the farm—the life that gave him his fine career. To that he went back as to an unfailing friend. Like Faust, he had the deep conviction that all our knowledge, all our experience, all our infinitely rich adventure of life, have this for their true end—to redeem a waste land from the sea and make the life of our fellow man more warm and happy. To the stern Calvinistic land

that reared him his body has returned. To many of us his parting "dims the day." We shall look long before another mind like his comes to us with its quiet power, its scientific inspiration. His wife and children are mourning for a warm-hearted father. We, too, mourn for a good friend.

Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed in the Dental examinations:—

Division A.—A. F. Carbury, M. Cornick, J. W. Daunt, G. Dunne, M. A. Higgins, J. J. Hutton, P. S. McCabe, F. A. McKinny, J. W. Mark, P. J. Polson, G. G. Tyson, and E. W. Whelan.

Division B.—A. J. Bodell, H. F. Holmes, F. Horsley, H. McCormick, R. L. O'Grady, and J. S. Smith.

Final Dental Examination (admitting to Licentiateship in Dental Surgery).—A. C. Gordon, W. F. Watson, and D. W. Wiseman.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.—A report of the Censor's Board on a letter from the Home Office concerning the labelling of patent medicines, dated March 2nd, 1911, has been received by the College, and the following recommendations were adopted:—

In reply to the communication from the Home Office the Royal College of Physicians is of opinion that it would be greatly to the benefit of the public if the manufacturers and vendors of patent medicines were compelled to print on the labels of the bottle or other vessel the exact composition of all such medicine and the amount of each constituent.

The College, however, recommends that the manufacturers and vendors shall not be allowed to print on the label the names of the diseases or symptoms which the patent medicine purports to cure, as the College is of opinion that such printing of the names only furthers the erroneous idea that particular diseases and symptoms can always be cured by particular drugs.

UNIVERSITY OF OXFORD.—The Master and Fellows of University College have, upon the report of the examiners, awarded the Radcliffe prize for 1911 to Claude G. Douglas, B.Sc., B.M., M.A., Fellow of St. John's College, for his work upon the blood and on respiration.

UNIVERSITY OF MANCHESTER.—Dr. C. Powell White will give three lectures on Cancer (Pilkington Cancer Research Foundation) on July 5th, 12th, and 14th, at 4.30 P.M., in the general theatre of the Medical School, University of Manchester. The lectures will deal with the geographical and topographical distribution of cancer; the frequency of cancer and its increase from year to year; the incidence of cancer in respect to age, sex, and organs affected; the influence of occupation and habits; and the relationship of cancer to other diseases. The lectures are open to members of the medical profession and to undergraduates in the medical faculty.

UNIVERSITY OF BIRMINGHAM.—The council has passed the following resolution:—

The council of the University has heard with great regret of the death of Professor Whitcombe, who for 23 years was professor of mental diseases at Queen's College, Mason College, and the University, and desires to place on record its appreciation of the valuable services he has rendered to the University.

—Dr. D. Fraser Harris, lecturer in physiology, has been elected Thompson lecturer in natural science for 1911-12 at the United Free Church College, Aberdeen, where he will deliver a course of lectures later in the year.—The Degree Congregation is to be held in the great hall of the University on July 8th, and will be marked by the conferring of honorary degrees on two of the colonial Prime Ministers—Sir Joseph Ward and Sir Edward Morris—who will then be on a visit to the city. A special Congregation will also be held during the last week in July, at which honorary degrees are to be conferred in connexion with the meeting of the Medical Association.

PLAGUE IN INDIA.—During the week ending April 22nd three cases of plague occurred in Allahabad Cantonments amongst the bandsmen of the 1st Royal Scots. Stringent precautions were taken to prevent the spread of the disease immediately upon its discovery. The voluntary inoculation of the rank and file of the battalion was at once ordered, and by the 24th three-fourths of the regiment had undergone the operation. Among other precautionary measures taken was the examination of all punkah coolies and other Indians of similar class employed in cantonments. All three cases were of the pneumonic form. One of the patients died on April 25th. As all the cases are amongst the bandsmen, who went to Benares recently on the occasion of the installation of the Maharaja, it is thought that the infection may have been brought from Benares.

Dr. R. Deane Sweeting, senior medical inspector of H.M. Local Government Board, has been reappointed by the Royal College of Surgeons of England examiner for the Conjoint Diploma in Public Health.

THE LOCAL GOVERNMENT BOARD AND THE PENZANCE BOARD OF GUARDIANS.—A considerable discussion took place at the last meeting of the Penzance board of guardians in consequence of the Local Government Board having written stating that it adhered to its determination not to sanction the appointment of the candidate of the Board as district medical officer. Eventually it was decided by a majority of 26 votes to advertise the post.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—A dinner of this association was held at the Garden Club of the Coronation Exhibition on Thursday, June 8th, when 20 members and guests were present. The President, Dr. Francis Edwards, after the usual loyal toasts and reading letters of regret for absence, gave the toast of "The Brussels Medical Graduates' Association." Dr. Arthur Haydon, honorary secretary of the association, in responding, said that a very successful annual meeting and banquet were held in the Kaiserhoff Restaurant of the Brussels Exhibition last August, this being the first time the association has ever held a meeting abroad. While in Brussels he had an interview with Professor Rommelaere, the President of the University, and was very pleased to hear that not only had all the recommendations of the council of the Brussels Medical Graduates' Association in 1908 been carried out by the Senate, but the same reforms had been adopted in other departments of the University, such as engineering and natural science. Two other dinners were held last year, one at the Trocadéro and the other at the Garden Club. Dr. Major Greenwood, in proposing the health of the President, made some references to the National Insurance Bill as it affected the profession.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on June 8th at Caxton House, Westminster, with Sir Francis H. Champneys in the chair. The Board considered the following charges amongst others against the midwives whose names are given below and ordered them to be struck off the roll. Emily Holloway, that being in attendance as a midwife at a confinement she was guilty of negligence and misconduct in that she washed the patient's genitals in the water previously used for washing the patient's face and hands, using flannel for the purpose, contrary to Rule E. 7. Ann Bevan, that being in attendance as a midwife at a confinement she failed to adopt the antiseptic precautions required by Rules E.3 and 7; she failed to wash the patient after the termination of labour, as required by Rule E.7; and a registered medical practitioner having been sent for on two occasions, she failed both times to notify the fact to the local supervising authority, as required by Rule E. 20 (1). Ann Cregan, that being in attendance as a midwife at a confinement, the child suffering from inflammation of the eyes from birth, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 19 (5). Anna Hooper, that having been in contact with a case of puerperal fever, and having in consequence been warned not to attend any confinement without having undergone adequate disinfection, she nevertheless attended as a midwife at a confinement without having disinfected herself, her appliances, and her clothing as required by Rule E.5. Mary Ann Spate, that she was uncleanly in her person, clothing, house, and appliances, and that she did not take the temperature of her patients, being unable to use a clinical thermometer. Emma Tilley, that she did not wear a dress of washable material as required by Rule E 1, and that she did not keep her register of cases as required by Rule E.22. Amelia Waight, that being in attendance as a midwife at a labour

she was drunk and unable to perform her duties properly. The following midwives were censured after charges against them had been considered: Mary Jane Barnes and Jane Hill. Ellen Girling was cautioned after charges against her had been considered.

THE DEATH OF DR. W. YOUNG MARTIN.—The death of William Young Martin, M.D. Durh., J.P., of Park-road, Pendleton, took place on June 3rd. Dr. Martin, who belonged to a well-known family which gave several of its members to the medical profession, practised for many years at Walkden. He was a magistrate of the county of Lancashire, and for 40 years he was medical officer and public vaccinator for Worsley, retiring in 1909. Up to the time of his death, at the age of 68, he retained the position of certifying surgeon under the Factory Acts for the Swinton district. A short time ago he had a cerebral lesion from which he never sufficiently recovered.

A DINNER will take place on Monday, June 26th, at the Connaught Rooms, of the officers of the Royal Army Medical Corps of the First and Second London Divisions of the Territorial Force. Colonel P. B. Giles, administrative medical officer, First London Division, will occupy the chair. Notices have been forwarded to all the officers concerned, and it is hoped that not only will every officer on the active list make a point of being present, but that many of those *à la suite* of the general hospitals and sanitary service will also attend. A number of prominent guests have accepted invitations to be present, and it is hoped that several of the medical officers attached to Colonial troops on duty at the Coronation will also attend. Further particulars and tickets (10*s*. 6*d*. each) can be obtained on application to the honorary secretary to the dinner committee, Major E. M. Callender, 47, Connaught-square, Hyde Park, W.

HEREDITARY TRANSMISSION.—On June 8th Professor W. Bateson delivered the Guthrie lecture before the Medical Society of Westminster Hospital on the Principles of Hereditary Transmission as displayed in the Doctrines of Mendelism. Emphasising the fact that animals and plants are unable to transmit to their offspring characteristics that they do not themselves possess, he illustrated this with the well-known story of the crossing of normal and waltzing mice. He then explained the terms "dominant" and "recessive." A point of special interest to the medical jurist was the statement that a child with brown eyes can only come from the marriage of parents one of whom at least must possess this characteristic. On the screen were shown numerous pedigrees illustrating Mendelian transmission from such diseases as pre-senile cataract, tylosis, Huntingdon's chorea, and diabetes insipidus. An interesting series of reproductions of portraits of members of the Hapsburg Royal Family for many generations were shown, exhibiting the well-marked hereditary characteristic of prognathism. Passing on to repulsion, the lecturer illustrated his remarks with photographs of the blue and hooded peas, and indicated how repulsion explained transmission in sex-limited conditions, such as Daltonism, where maleness and the abnormality repelled one another so that a father did not hand on the condition to his son, but to his grandson through his unaffected daughter. Dealing lastly with the eugenics of Mendelism, Professor Bateson warned his audience to be very cautious in forbidding marriage in any case, except when feeble-mindedness or some such defect is so marked as to render the individual certain to produce children of his own type.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Parliamentary Session.

THE House of Commons resumed on Tuesday, June 13th, after the Whitsuntide holidays. It will take another short holiday for the Coronation, and it will probably be July before it starts in earnest the consideration in committee of the National Insurance Bill. There is a prevalent idea at Westminster that Parliament will sit until the end of August or even the beginning of September.

Medical Charges for Postal Employees.

On the motion of Mr. EDMUND HARVEY a return has been ordered by the House of Commons showing the remuneration paid to medical officers for attendance on: (*a*) postmen (staff), (*b*) postmen (auxiliaries), (*c*) sorters, (*d*) telegraphists, (*e*) telegraph messengers, (*f*) general clerical staff, (*g*) male telephone employees, (*h*) female telephone employees, (*i*) female clerks (Savings Bank Department, (*j*) female clerks (counter and telegraph), in each of the following districts and towns: Large towns: (1) London Postal Area, (2) Bradford, (3) Glasgow, (4) Dublin, (5) Belfast, (6) Portsmouth, (7) Bristol, (8) Liverpool, (9) Manchester, (10) Newcastle, (11) Leeds; smaller towns: (12) Guildford (Surrey), (13) Cirencester, (14) King's Lynn, (15) Hereford, (16) Canterbury; rural areas: (17) Yorkshire (West Riding), (18) Gloucester, County of, (19) Cumberland, County of, (20) Suffolk, County of; special rate, if any, paid for official examinations of each class (*a* to *j*) mentioned above, and the scale of pay in cases including the cost of drugs.

HOUSE OF COMMONS.

TUESDAY, JUNE 13TH.

National Insurance Bill.

Mr. MONTAGUE BARLOW asked the Chancellor of the Exchequer whether in view of the fact that under the provisions of the National Insurance Bill various hospitals and charitable institutions now supported by voluntary public contributions would be called upon to find additional expenditure necessitated by the insurance of nurses, attendants, and other employees receiving less than £160 per annum, when such nurses, attendants, and employees did not come under the provisions of the First Schedule, Part II. (b), whilst at the same time additional work was being placed upon them by the certain increase of patients consequent on universal medical attendance and the probable withdrawal of public voluntary support consequent on the introduction of such an Act as the National Insurance Bill, he could see his way to assist, from the moneys received under such a Bill, towards the upkeep of such hospitals and charitable institutions.—Mr. LLOYD GEORGE replied: The honourable Member has apparently overlooked Clause 17 of the Bill, which enables approved societies to subscribe to hospitals and other charitable institutions, and, I think, the position of such institutions is likely on the whole to be strengthened rather than prejudiced by the operation of the Bill.

Mr. LESLIE SCOTT also asked the right honourable gentleman whether in the Government insurance scheme account had been taken of the fact that a large proportion of nurses received medical treatment and attendance without payment; and whether he would make such provision in the Bill as would enable the nurses to retain the benefit of such gratuitous treatment and attendance by permitting such part of the insurance fund as would, but for such provision, be paid out for medical treatment and attendance to be utilised for the benefit of the nurses themselves.—Mr. LLOYD GEORGE answered: Money not required for the payment of the minimum benefits under the Bill becomes available for payment of additional benefits.

Mr. KING asked the right honourable gentleman how, under the National Insurance Bill, he proposed to meet the difficulty of non-resident members of approved societies, who, while continuing to pay subscriptions to their lodges or courts, were under their rules released from medical fees and benefits when residing outside the local radius of their branches.—Mr. LLOYD GEORGE said, in reply: An approved society must undertake to administer the medical benefit provided by the National Health Insurance for any member who is resident in the United Kingdom. It is for the society to make arrangements for such cases.

WEDNESDAY, JUNE 14TH.

National Insurance.

Mr. CLYNES asked the Chancellor of the Exchequer whether, in fixing the medical expenditure at 6*s*. per head of insured persons under his insurance scheme, he had obtained information from the Post Office, police authorities, and similar public bodies, as to how much they paid per head on their employees for medical attendance; and whether he could state how his scale compared with theirs.—Mr. LLOYD GEORGE replied: The information was obtained from a variety of sources, but a comparison of the scales of payment in the cases mentioned would be misleading.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, Bartholomew Close, London, E.C.

The Disorders of Post-Natal Growth and Development. By Hastings Gilford, F.R.C.S. Price 15*s*. net.

APPLETON, D., AND CO., New York and London.

The Modern View of Syphilis and its Treatment. By Gustav Baar, M.D. Vienna. Price 8*s*. 6*d*. net.

Symptomatic and Regional Therapeutics. By George Howard Hoxie, A.M., M.D., Professor of Internal Medicine and Dean of the Clinical Department in the School of Medicine of the University of Kansas. Price 16*s*. net.

Clinical Symptomatology, with Special Reference to Life-Threatening Symptoms and their Treatment. By Alois Pick, Professor of Medicine, University of Vienna, and Adolph Hecht, Pediatrician, St. Anne's Hospital, Vienna. An Authorised Translation under the Editorial Supervision of Karl Konrad Koessler, M.D. (Univ. of Vienna), Rush Medical College. Price 25*s*. net.

Principles of Therapeutics. By A. Manquat, National Correspondent to the Académie de Médecine. Translated by M. Simbad Gabriel, M.D. Price 12*s*. 6*d*. net.

BAILLIÈRE, TINDALL, AND COX, London.

Meat and its Inspection. A Practical Guide for Meat Inspectors, Students, and Medical Officers of Health. By Arthur E. Littlejohn, M.R.C.S., L.R.C.P., M.R.C.V.S., D.P.H., Formerly Tutor in Veterinary Medicine, Royal Veterinary College, London. Price 10*s*. 6*d*. net.

EXHIBITION COMMITTEE, THE, 33, Henrietta-street, London, W.C.

The Book of the Exhibition of Houses and Cottages, Romford Garden Suburb, Gidea Park. Price 1*s*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BUNBURY, EDWIN GARRETT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Lizard District by the Helston (Cornwall) Board of Guardians.

DALEY, W. A., M.B., B.S. Liverp., has been appointed Medical Officer of Health of Bootle.

DAWES, A. H. C., L.M.S.S.A. Lond., has been appointed House Physician at the Westminster Hospital.

FIELDEN, V. G. L., M.B., B.S. R.U.I., has been appointed Anæsthetist to the Royal Victoria Hospital, Belfast.

LANGRAN, WILLIAM, L.R.C.P. & S., L.M. Edin., L.A.H. Dub., has been re-appointed Medical Officer of Health for Axminster (Devon) Rural District Council.

HOUSTON, THOMAS, M.D. R.U.I., has been appointed Assistant Physician in Charge of the Hæmatological and Vaccine Therapy Department of the Royal Victoria Hospital, Belfast.

RANKIN, J. C., M.D. R.U.I., has been appointed Assistant Physician in the Electrical Department of the Royal Victoria Hospital, Belfast.

STEELE-PERKINS, DUNCOMBE STEELE, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Honiton (Devon) Rural District Council.

WHEELER, H. Q. O., L.R.C.P & S. Irel., has been appointed Junior House Surgeon at the Birkenhead Borough Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BENENDEN, KENT, NATIONAL SANATORIUM.—Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House Surgeon. Salary £70 per annum, with board and residence.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £140 per annum, with rooms, rations, laundry, and attendance.

BRADFORD ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL UNIVERSITY.—Demonstrator of Pathology. Salary £200 per annum.

BURY INFIRMARY.—Senior House Surgeon. Salary £110 per annum, with board, residence, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician. Also Second House Surgeon. Salary in each case £80 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, lodging, and washing.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, washing, &c.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £80 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £70 per annum, with board, apartments, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon for six months, unmarried. Salary at rate of £50 per annum, with board, apartments, and laundry.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, attendance, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician for six months. Salary at rate of £60 per annum, with board, residence, and washing. Also Ten Clinical Assistants.

EXMINSTER, DEVON COUNTY ASYLUM.—Fourth Assistant Medical Officer and Pathologist. Salary £130 per annum, with apartments, attendance, and washing.

HARTLEPOOL, BOROUGH OF.—Medical Officer of Health and School Medical Officer. Salary for joint offices £250 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board and residence, &c. Also Ophthalmic Surgeon.

KENT COUNTY COUNCIL.—Assistant to County Medical Officer of Health. Salary £300 per annum.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

LEEDS GENERAL INFIRMARY.—Ophthalmic House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and washing.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House Physician. Salary at rate of £60 per annum, with board and lodging.

LIVERPOOL STANLEY HOSPITAL.—Honorary Anæsthetist.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Demonstrator in Anatomy (female).

LURGAN UNION WORKHOUSE AND FEVER HOSPITAL.—Resident Medical Officer (female). Salary £80 per annum, with apartments, laundry, and rations.

MANCHESTER UNIVERSITY.—Lecturer in Orthopædic Surgery. Also Two Assistant Lecturers in Surgery.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Resident Medical Officer (female) for six months. Salary at rate of £80 per annum, with apartments, board, and laundry.

MEDICAL MISSION HOSPITAL, Baalam-street, Plaistow, E.—Assistant Physician (female).

MELROSE, ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary £160 per annum, with board, lodging, and washing.

MENSTON, NEAR LEEDS, WEST RIDING ASYLUM.—Fourth Assistant Medical Officer. Salary £150 per annum, with board and apartments.

MERSTHAM, SURREY, NETHERNE ASYLUM.—Locum Tenens. Salary 4 guineas per week, with board, apartments, attendance, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—House Physician. Salary £75 per annum, with board, residence, and washing.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Professor of Physiology. Salary £450 per annum.

NEW HOSPITAL FOR WOMEN.—Clinical Assistant (female). Also Anæsthetist.

NOTTINGHAM WORKHOUSE INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments, board, washing, and attendance.

OCHILTREE PARISH COUNCIL, Ayrshire.—Medical Officer. Salary £25 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Surgeon.

QUEEN ADELAIDE'S DISPENSARY, Pollard Row, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with apartments, attendance, &c.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Refraction Assistant. Salary at rate of £25 per annum, with lunch. Also Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, W.—Honorary Anæsthetist.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Lecturer on Physiology. Salary at rate of £350 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Resident House Surgeon. Salary £80 per annum, with board and residence.

SHEFFIELD CHILDREN'S HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Seventh Resident Medical Officer. Salary £60 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with rooms, board, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, washing, and attendance.

TAUNTON, SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, washing, attendance, &c.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £40, with board, lodging, and laundry.

WEST HAM UNION WORKHOUSE, Union-road, Leytonstone, N.E.—Second Assistant Medical Officer. Salary £120 per annum.

WESTMINSTER HOSPITAL.—Resident Obstetric Assistant for six months. Board and lodging provided.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £80 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, rooms, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

AITCHISON.—On June 9th, at Drayton-terrace, South Kensington, the wife of Charles U. Aitchison, M.D., of a son.

MACNAB.—On June 9th, at Balham High-road, S.W., the wife of John Theodore Macnab, M.A., M.B., B.C., M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

CARDELL—STACEY.—On June 8th, at the Parish Church, Tonbridge, Edward Stewart Cardell, M.R.C.S., L.R.C.P., of "Lyons," Tonbridge, to Florence Gwendolen, eldest daughter of the late W. J. Stacey, War Office.

RAINEY—PARSONS.—On June 6th, at Holy Trinity Church, Bedford, Edward Holmes Rainey, M.R.C.S., L.R.C.P., of Hornsey, to Irene Frances Evelyn, youngest child of Mr. and Mrs. A. Eames Parsons.

DEATHS.

CONOLLY.—On March 30th, at Sydney, N.S.W., Noel Alfred William Conolly, M.R.C.S. Eng., L.R.C.P. Lond., aged 33 years.

Notes, Short Comments, and Answers to Correspondents.

CORONATION CELEBRATIONS—FIRE PRECAUTIONS FOR JUNE 22ND, 23RD, AND 29TH.

WITH the view of minimising the danger of fire during the Coronation celebrations the British Fire Prevention Committee has promulgated, and asks us to assist in publishing, the following suggested precautions:—

Matches, Smoking, and Wearing Apparel.

1. The lighting of matches and smoking should be avoided by persons standing or moving in a crowd, and should be prohibited by owners of stands, balconies, &c.

2. The wearing of garments of muslin, voile, and flannelette should be avoided, and celluloid articles should on no account be worn.

Decorations, Stands, Balconies, &c.

1. The use of highly inflammable decorative materials, such as paper roses, muslin, cotton-wool borders, unless properly treated, and celluloid decorations should also be avoided.

2. Exits and stairs should be kept clear for all stands, balconies, rooms, &c., used as points of vantage; and buckets of water in good number, thick cloths, portable steps, and knives for cutting down draperies should be at hand.

Illuminations, Fireworks, &c

1. Illumination devices must be fixed firmly with metal fastenings, i.e., not with string or cord, and on no account placed on window ledges, balcony rails, or the like, overlooking public thoroughfares without being properly secured.

2. Curtains, hangings, &c., should be removed from around windows where open lights are to be used and away from temporary wiring, fuse boxes, &c.

3. Buckets of water should be provided, also boxes of dry sand where electrical illuminations are employed.

4. Fireworks, especially rockets, should on no account be let off from property adjacent to thoroughfares, and where used should be handled by adults of some experience.

MYSTERY PAINTINGS.

THERE is at present on exhibition in London a picture of the Christ by a deceased Canadian artist which displays certain phenomena that are alleged to have appeared in the picture entirely without the artist's knowledge or design. On turning down the light the picture becomes a luminous surface, except for a shadow of the Cross, which appears diagonally across it. On inspecting the canvas from behind no trace of the cross is to be found, neither does there appear anything abnormal. It is asserted that experts have been unable to account for the phenomena by chemical examination of the colours or in any other way. As an offset to these claims there is on exhibition at the Dudley Galleries the picture of a monk which, on the lowering of the light, also becomes a luminous surface, the monk giving place to a shadow of the Devil, which may be described in heraldic language as "the Prince of Darkness, proper." This picture, which was painted under the supervision of Mr. William Marriott, appears to correspond in all respects to the conditions of the other; but it is expressly asserted that the effect has been intentionally produced by natural means, though what these are we are not told. There are many substances which absorb light rays and emit them in the darkness. In a surface so treated any portion left untouched by the luminous solution would naturally appear dark when the lights are turned out. It was said to be an old trick to paint ghostly forms with a luminous solution on a photographer's background. These forms were invisible to the naked eye, but came out in a photograph of a person placed in front of the background.

J. F. G.—1. The competition for school medical inspectorships is keen. 2. The school medical inspector does not generally undertake treatment as well as inspection, and such a blend of duties is undesirable for many reasons. 3. Courses of instruction for the Diploma in Public Health are given by several of the larger London medical schools, and particulars can be obtained on application to the various deans.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for June and July, 1911:—

April–October.—Rome Exhibition (United Italy's Jubilee).
,, 29th–Oct. 26th (Turin).—International Exhibition.
May 3rd–Oct. 31st (Glasgow).—Scottish Exhibition.
,, 6th–Oct. 31st (Dresden).—International Hygiene Exhibition (British Section opens June 14th).
,, 12th–Oct. 31st (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
,, 18th–October 31st (London, Shepherd's Bush).—Coronation Exhibition.
,, 19th–Oct. 31st (London).—Earl's Court Exhibition.
June 1st–August 31st (Squirrels Heath, Romford).—Town Planning and Modern House and Cottage Exhibition.
,, 19th–21st (Denver, Col.).—Thirty-second Annual Meeting of the American Surgical Association.
,, 19th–22nd (Denver, Col.)—Sixty-seventh Annual Meeting of the American Medico-Psychological Association.
,, 26th and 27th (Los Angeles, Cal.).—Thirteenth Annual Meeting of the American Proctologic Society.
,, 26th–30th (Norwich).—Royal Agricultural Society's Seventy-second Show.
,, 27th–30th (Los Angeles, Cal.).—American Medical Association.
July 3rd–5th (Bergen).—Seventh Norwegian Congress of Internal Medicine.
,, 6th and 7th (London).—Imperial Health Congress.
,, 24th–27th (Portsmouth).—British Pharmaceutical Conference.
,, 24th–28th (London).—Second International Congress of Urology.
,, 24th–29th (Belfast).—Congress of the Royal Sanitary Institute.
,, 25th–28th (Birmingham).—British Medical Association, Seventy-ninth Annual Meeting.
,, 26th (Rouen).—French National Dental Congress.
,, 26th–29th (London).—Universal Races Congress.
,, 31st–Aug. 4th (Paris).—Second French Congress of Stomatology
,, 31st–August 5th (Dijon).—Congress of the French Association for the Advancement of Sciences.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 2, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Pernet: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. J. Poynton; Heart Disease (Non-rheumatic) in Childhood.
TUESDAY.—4 P.M., Dr. W. J. Fenton: Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. B. Jordan: Intestinal Stasis and Obstruction as shown by Radiography.
WEDNESDAY.—4 P.M., Mr. I. Back: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. H. L. Evans: Some Common Affections of the Feet giving Rise to Pain.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon: Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Dunn: Conditions of the Eye-ball requiring Enucleation.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M.: Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Hæmaturia as a Symptom of Urinary Disease.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Dr. Simson: Gynæcological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Etherington-Smith: Clinical. (Lecture II.)

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MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. B. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).
TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. G. G. Macdonald: The Modern Treatment of Syphilis.
WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.
TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.
THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4.30 P.M., Dr. H. Pirie: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.
FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. L. Paton: Optic Neuritis.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.
TUESDAY.—5.15 P.M., Demonstration:—Mr. G. E. Waugh: General Surgical Diseases—Diseases of the Middle Ear and Mastoid Process of their Intracranial Complications. (Special Post-Graduate Course.)
FRIDAY.—5.15 P.M., Demonstration:—Mr. G. E. Waugh: General Surgical Diseases—Laryngeal Obstruction. Empyema. Pyopericardium. (Special Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.
TUESDAY.—5 P.M., Dr. W. K. Sibley: The Relation between Diseases of the Teeth and Dermatology. (Post-Graduate Lecture.)

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.
TUESDAY.—3.45 P.M., Lecture:—Mr. J. G. French: Pharynx and Naso-pharynx.

UNIVERSITY OF LONDON (UNIVERSITY COLLEGE), Institute of Physiology.
FRIDAY.—4.30 P.M., Dr. W. M. Bayliss; The Mechanism of Oxidation in Plants and Animals. (Lecture VIII.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London 2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (24th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 14th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 8	30·31	E.	...	124	77	53	58	64	Fine
,, 9	29·89	N.E.	...	128	76	60	62	67	Fine
,, 10	30·02	N.E.	...	123	62	46	48	55	Cloudy
,, 11	30·04	W.	...	100	68	49	53	59	Cloudy
,, 12	29·93	S.W.	...	119	70	49	51	57	Overcast
,, 13	29·85	N.E.	...	118	63	52	50	56	Cloudy
,, 14	29·97	NNW	...	110	61	46	48	53	Cloudy

The following journals, magazines, &c., have been received:—Man, School Hygiene, Archives de Médecine et Pharmacie Navales, Folia Therapeutica, Journal of Tropical Medicine, Indian Public Health, Indian Medical Gazette, La Clinique Ophtalmologique, Canadian Journal of Medicine and Surgery, Optician, Midland Medical Journal, Detroit Medical Journal, St. Paul Medical Journal, Bulletin et Mémoires Société de Radiologie Médicale de Paris, Journal of the Royal Institute of Public Health, Jahrbuch für Kinderheilkunde, Guy's Hospital Gazette, St. George's Hospital Gazette, Die Therapie der Gegenwart, International Journal of Surgery, Archives Générales de Médecine, Revue de Gynécologie, Review of Neurology and Psychiatry, L'Hygiène de la Viande et du Lait, Archives de Médecine et de Pharmacie Militaires, Medical Review of Reviews.

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